



Australian Government

ICP10 Printing and Graphic Arts

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Modification History

Version	Release date	Comments
2.0	July 2012	<p>NSSC endorsement:</p> <p>The following changes made to the Certificate III qualifications listed below:</p> <ul style="list-style-type: none"> • core unit ‘BSBSUS301A Implement and monitor environmentally sustainable work practices’ replaced with ‘BSBSUS201A Participate in environmentally sustainable work practices’, and native and imported units updated • updated year in the qualification code to reflect above change <ul style="list-style-type: none"> • ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production) • ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press) • ICP30312 Certificate III in Printing and Graphic Arts (Multimedia) • ICP30412 Certificate III in Printing and Graphic Arts (Digital Printing) • ICP30512 Certificate III in Printing and Graphic Arts (Printing) • ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing) • ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing) • ICP30812 Certificate III in Printing and Graphic Arts (Sacks and Bags) • ICP30912 Certificate III in Printing and Graphic Arts (Cartons and Corrugating) • ICP31012 Certificate III in Printing and Graphic Arts (Mail House) • ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture). <p>ISC upgrade:</p> <ul style="list-style-type: none"> • Imported elective units updated with the most current equivalent unit in: <ul style="list-style-type: none"> • ICP20310 Certificate II in Printing and Graphic Arts (Digital Printing) • ICP40110 Certificate IV in Printing and

Version	Release date	Comments
		<p>Graphic Arts (Graphic Pre-press)</p> <ul style="list-style-type: none"> • ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia) • ICP40310 Certificate IV in Printing and Graphic Arts (Printing) • ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing) • ICP40510 Certificate IV in Printing and Graphic Arts (Mail House) • ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales) • ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership) • ICP50110 Diploma of Printing and Graphic Arts (Digital Production) • ICP50210 Diploma of Printing and Graphic Arts (Multimedia) • ICP50310 Diploma of Printing and Graphic Arts (Printing) • ICP50410 Diploma of Printing and Graphic Arts (Management/Sales) • ICP50510 Diploma of Printing and Graphic Arts (Process Improvement). • Minor editorial corrections to the following ICP10 units resulting in unit version identifiers in codes being upgraded: <ul style="list-style-type: none"> • ICPMM491D: prerequisite unit updated to current version • ICPMM492D: prerequisite unit updated to current version • ICPPP284B: editorial error corrected • ICPSP337D: editorial errors corrected.
1.0	5 July 2010	<ul style="list-style-type: none"> • inclusion of additional digital printing units of competency • addition of two digital printing qualifications • qualifications updated to include a core environmental sustainability unit and additional choice of elective units.

ICP10 Printing and Graphic Arts Training Package

ICP10 Printing and Graphic Arts

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Preliminary Information

Important Note to Users

Training Packages are not static documents; they are amended periodically to reflect the latest industry practices and are version controlled. It is essential that the latest version is always used.

Check the version number before commencing training or assessment

This Training Package is Version 2 - check whether this is the latest version by going to the National Training Information Service (www.ntis.gov.au) and locating information about the Training Package. Alternatively, contact Innovation and Business Industry Skills Council at <http://www.ibsa.org.au> to confirm the latest version number.

Explanation of version number conventions

The primary release Training Package is Version 1. When changes are made to a Training Package, sometimes the version number is changed and sometimes it is not, depending on the extent of the change. When a Training Package is reviewed it is considered to be a new Training Package for the purposes of version control, and is Version 1. Do not confuse the version number with the Training Packages national code (which remains the same during its period of endorsement).

Version modification history

ICP10 Printing and Graphic Arts Training Package Version 2 is a revision of ICP10 Version 1, which was endorsed on 14 February 2011. The change to all Certificate III qualifications in this version was made to better reflect the skills required by someone operating at a Certificate III / Grade 5 production level worker.

Training Package Details

Training Package Code:	ICP10
Training Package Name:	Printing and Graphic Arts
First Published:	2010
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List of AQF Qualifications

Qualification Code	Title
ICP20110	Certificate II in Printing and Graphic Arts (General)
ICP20210	Certificate II in Printing and Graphic Arts (Desktop Publishing)
ICP20310	Certificate II in Printing and Graphic Arts (Digital Printing)
ICP20410	Certificate II in Printing and Graphic Arts (Print Production Support)
ICP20510	Certificate II in Printing and Graphic Arts (Screen Printing)
ICP20610	Certificate II in Printing and Graphic Arts (Converting, Binding and Finishing)
ICP20710	Certificate II in Printing and Graphic Arts (Sacks and Bags)
ICP20810	Certificate II in Printing and Graphic Arts (Cartons)
ICP20910	Certificate II in Printing and Graphic Arts (Corrugating)
ICP21010	Certificate II in Printing and Graphic Arts (Mail House)
ICP21110	Certificate II in Printing and Graphic Arts (Ink Manufacture)
ICP30112	Certificate III in Printing and Graphic Arts (Graphic Design Production)
ICP30212	Certificate III in Printing and Graphic Arts (Graphic Pre-press)
ICP30312	Certificate III in Printing and Graphic Arts (Multimedia)
ICP30412	Certificate III in Printing and Graphic Arts (Digital Printing)
ICP30512	Certificate III in Printing and Graphic Arts (Printing)
ICP30612	Certificate III in Printing and Graphic Arts (Screen Printing)
ICP30712	Certificate III in Printing and Graphic Arts (Print Finishing)
ICP30812	Certificate III in Printing and Graphic Arts (Sacks and Bags)
ICP30912	Certificate III in Printing and Graphic Arts (Cartons and Corrugating)
ICP31012	Certificate III in Printing and Graphic Arts (Mail House)

Qualification Code	Title
ICP20110	Certificate II in Printing and Graphic Arts (General)
ICP20210	Certificate II in Printing and Graphic Arts (Desktop Publishing)
ICP31112	Certificate III in Printing and Graphic Arts (Ink Manufacture)
ICP40110	Certificate IV in Printing and Graphic Arts (Graphic Pre-press)
ICP40210	Certificate IV in Printing and Graphic Arts (Multimedia)
ICP40310	Certificate IV in Printing and Graphic Arts (Printing)
ICP40410	Certificate IV in Printing and Graphic Arts (Print Finishing)
ICP40510	Certificate IV in Printing and Graphic Arts (Mail House)
ICP40610	Certificate IV in Printing and Graphic Arts (Management/Sales)
ICP40710	Certificate IV in Printing and Graphic Arts (Process Leadership)
ICP50110	Diploma of Printing and Graphic Arts (Digital Production)
ICP50210	Diploma of Printing and Graphic Arts (Multimedia)
ICP50310	Diploma of Printing and Graphic Arts (Printing)
ICP50410	Diploma of Printing and Graphic Arts (Management/Sales)
ICP50510	Diploma of Printing and Graphic Arts (Process Improvement)

Units of competency in this Training Package and their prerequisites

Native units in ICP10 Training Package	
Code	Title
Converting Binding and Finishing	
ICPCF105C	Operate in-line mail machine
ICPCF202C	Handline mail
ICPCF203C	Collate and insert mail manually
ICPCF204C	Operate addressing machine
ICPCF208C	Set up and operate a cheque mailer machine
ICPCF209C	Set up and operate in-line mail machine
ICPCF220C	Produce basic converted or finished product
ICPCF221C	Set up and produce basic guillotined product
ICPCF222C	Set up and operate in-line cutter
ICPCF223C	Set up machine for cutting (trimming)
ICPCF224C	Produce cut (trimmed) product
ICPCF225C	Set up machine for basic flat-bed die cutting or embossing
ICPCF226C	Produce basic flat-bed die cut or embossed product
ICPCF227C	Set up machine for basic rotary die cutting or embossing
ICPCF228C	Produce basic rotary die cut or embossed product
ICPCF231C	Set up machine for basic flat-bed cutting
ICPCF232C	Produce basic flat-bed cut product
ICPCF235C	Set up machine for basic rotary cutting
ICPCF236C	Produce basic rotary cut product
ICPCF241C	Set up machine for basic single or continuous folding

Native units in ICP10 Training Package	
Code	Title
ICPCF242C	Produce basic single or continuous folded product
ICPCF243C	Set up machine for basic collating or inserting (sheet/section)
ICPCF244C	Produce basic collated or inserted (sheet/section) product
ICPCF245C	Set up and produce hand-collated or -inserted product
ICPCF261C	Set up machine for basic adhesive, mechanical or thermal fastening
ICPCF262C	Produce basic adhesive, mechanical or thermal fastened product
ICPCF263C	Set up and produce hand-fastened product
ICPCF281C	Set up machine for basic laminating
ICPCF282C	Produce basic laminated product
ICPCF294C	Set up profile cutting for envelope manufacture
ICPCF297C	Clean sack and bag machines
ICPCF298C	Run and monitor sack and bag machines
ICPCF2101C	Set up and run machine for sewing
ICPCF2104C	Set up single-faced web
ICPCF2106C	Set up double-faced web
ICPCF2108C	Produce basic folded and glued cartons
ICPCF311C	Prepare for cutting forme and stripper making
ICPCF312C	Set cutting forme and strippers
ICPCF320C	Produce complex converted or finished product
ICPCF321C	Set up and produce complex guillotined product
ICPCF326C	Undertake pre make-ready for die cutting
ICPCF327C	Set up machine for complex rotary die cutting or embossing
ICPCF328C	Produce complex rotary die cut or embossed product

Native units in ICP10 Training Package	
Code	Title
ICPCF341C	Set up machine for complex sequenced or multiple folding
ICPCF342C	Produce complex sequenced or multiple folded product
ICPCF343C	Set up machine for complex collating or inserting (sheet/section/reel)
ICPCF344C	Produce complex collated or inserted (sheet/section/reel) product
ICPCF361C	Set up machine for complex adhesive, mechanical or sewn fastening
ICPCF362C	Produce complex adhesive, mechanical or sewn fastened product
ICPCF369C	Set up and produce hand-made box
ICPCF371C	Decorate paper
ICPCF381C	Set up machine for complex laminating
ICPCF382C	Produce complex laminated product
ICPCF391C	Use electronic monitoring systems (converting and finishing)
ICPCF392C	Produce product on window gluer
ICPCF393C	Set up machine for envelope manufacture
ICPCF395C	Set up and operate folder gluer machine
ICPCF396C	Set up in-line scoring, folding and gluing machine for envelope manufacture
ICPCF398C	Set up in-line bottom making machine for sack or bag manufacture
ICPCF399C	Set up in-line tube making machine for sack or bag manufacture
ICPCF3100C	Run and monitor in-line tube making machine for sack or bag manufacture
ICPCF3101C	Run and monitor in-line bottom making machine for sack or bag manufacture
ICPCF3102C	Set up and monitor in-line scoring, folding and gluing machine for sack or bag manufacture
ICPCF3103C	Run and monitor envelope manufacturing machines
ICPCF3105C	Produce single-faced web

Native units in ICP10 Training Package	
Code	Title
ICPCF3106C	Set up machine for basic carton folding and gluing
ICPCF3107C	Produce double-faced web
ICPCF3109C	Produce complex folded and glued cartons
ICPCF406C	Set up and load in-line smart card machine
ICPCF407C	Operate a smart card machine and pack product
ICPCF410C	Set up machine for complex carton folding and gluing
ICPCF425C	Set up machine for complex flat-bed die cutting or embossing
ICPCF426C	Produce complex flat-bed die cut or embossed product
ICPCF465C	Set up and produce hand-bound book
ICPCF467C	Restore books
Ink Manufacturing	
ICPIM211C	Select and prepare materials for production
ICPIM221C	Blend chemicals
ICPIM251C	Filter and pack product
ICPIM331C	Manufacture inks and coatings
ICPIM335C	Manufacture varnish and resin
Knowledge	
ICPKN311C	Apply knowledge of the graphic pre-press sector
ICPKN312C	Apply knowledge of printing machining
ICPKN313C	Apply knowledge and requirements of the converting, binding and finishing sector
ICPKN314C	Apply knowledge and requirements of the screen printing sector
ICPKN315C	Apply knowledge and requirements of the multimedia sector

Native units in ICP10 Training Package	
Code	Title
ICPKN316C	Apply knowledge and requirements of paper and printing processes
ICPKN317C	Apply knowledge and requirements of the ink manufacturing sector
ICPKN318C	Apply knowledge and requirements of mail house operations
ICPKN319C	Apply knowledge and processes of converting paper-based products
ICPKN320C	Apply knowledge and requirements of information technology systems in the printing industry
ICPKN321A	Apply knowledge and requirements of digital production
Multimedia	
ICPMM263C	Access and use the Internet
ICPMM296C	Create and test a CD-ROM/DVD
ICPMM321C	Capture a digital image
ICPMM322C	Edit a digital image
ICPMM344C	Manipulate and incorporate audio into multimedia presentations
ICPMM346C	Incorporate video into multimedia presentations
ICPMM491D	Create an extensible document
ICPMM492D	Create an extensible style sheet
ICPMM581C	Manage multimedia production
ICPMM582C	Manage multimedia projects
Pre-press	
ICPPP211C	Develop a basic design concept
ICPPP221C	Select and apply type
ICPPP223C	Photograph a line image
ICPPP224C	Produce pages using a page layout application

Native units in ICP10 Training Package	
Code	Title
ICPPP225C	Produce graphics using a graphics application
ICPPP231C	Manually combine spot colour and basic four-colour images
ICPPP232C	Electronically combine and assemble data
ICPPP252C	Output images
ICPPP260C	Proof images
ICPPP266C	Produce relief plates
ICPPP267C	Produce offset lithographic plates
ICPPP268C	Make photopolymer plates (flexographic)
ICPPP269C	Produce photopolymer plates for pad printing
ICPPP272C	Produce gravure cylinders manually
ICPPP281C	Design basic carton
ICPPP283C	Prepare artwork for screen printing
ICPPP284B	Produce PDF files for online or screen display
ICPPP285A	Scan a mono image
ICPPP286A	Scan images for reproduction
ICPPP311C	Develop a detailed design concept
ICPPP321C	Produce a typographic image
ICPPP322C	Digitise images for reproduction
ICPPP323C	Photograph and produce halftone images
ICPPP324C	Create pages using a page layout application
ICPPP325C	Create graphics using a graphics application
ICPPP331C	Manually combine complex four-colour images
ICPPP333C	Electronically combine complex images

Native units in ICP10 Training Package	
Code	Title
ICPPP334C	Prepare an imposition format for printing processes
ICPPP352C	Output complex images
ICPPP360C	Undertake special colour proofing
ICPPP370C	Produce multiple image plates
ICPPP372C	Produce gravure cylinders electronically
ICPPP382C	Produce computer image for screen printing
ICPPP385C	Operate a database for digital printing
ICPPP386C	Undertake digital proofing
ICPPP396A	Generate high-end PDF files
ICPPP397A	Transfer digital files
ICPPP411C	Undertake a complex design brief
ICPPP421C	Compose and evaluate typography
ICPPP422C	Digitise complex images for reproduction
ICPPP423C	Apply colour to design brief
ICPPP430C	Manage colour
ICPPP435C	Generate complex imposition
ICPPP452C	Output complex images direct to plate or press
ICPPP481C	Design complex carton
ICPPP484C	Set up and operate automated workflow
ICPPP485C	Develop a digital data template
ICPPP494C	Develop document content and structure
Printing	
ICPPR211C	Mount and proof flexographic plates for basic printing

Native units in ICP10 Training Package	
Code	Title
ICPPR214C	Produce basic flexographic printed product
ICPPR222C	Produce basic gravure printed product
ICPPR232C	Produce basic lithographic printed product
ICPPR242C	Produce basic pad printed product
ICPPR261C	Set up for foil stamping
ICPPR262C	Produce foil stamped product
ICPPR271C	Set up for basic coating
ICPPR272C	Produce basic coated product
ICPPR282C	Produce and manage basic digital print
ICPPR283A	Use digital media consumables
ICPPR284A	Introduction to colour management
ICPPR285A	Use digital workflow
ICPPR286A	Finish a digital product
ICPPR287A	Use digital processes
ICPPR288A	Produce basic relief printed product
ICPPR313C	Set up for basic flexographic printing
ICPPR314C	Produce complex flexographic printed product
ICPPR321C	Set up for basic gravure printing
ICPPR322C	Produce complex gravure printed product
ICPPR331C	Set up for basic lithographic printing
ICPPR332C	Produce complex lithographic printed product
ICPPR341C	Set up for basic pad printing
ICPPR342C	Produce complex pad printed product

Native units in ICP10 Training Package	
Code	Title
ICPPR382C	Produce and manage complex digital print
ICPPR383C	Prepare for personalised digital printing
ICPPR384A	Set up and produce basic digital print
ICPPR385A	Apply software applications to digital production
ICPPR386A	Troubleshoot digital media
ICPPR387A	Use colour management for production
ICPPR388A	Preflight and import complex images for digital device
ICPPR389A	Manage digital files
ICPPR390A	Generate a proof for digital production
ICPPR392A	Set up and produce specialised digital print
ICPPR393A	Set up for basic relief printing
ICPPR394A	Produce complex relief printed product
ICPPR411C	Mount and demount flexographic plates for complex printing
ICPPR413C	Set up for complex flexographic printing
ICPPR414C	Produce specialised flexographic printed product
ICPPR421C	Set up for complex gravure printing
ICPPR422C	Produce specialised gravure printed product
ICPPR431C	Set up for complex lithographic printing
ICPPR432C	Produce specialised lithographic printed product
ICPPR441C	Set up for complex pad printing
ICPPR442C	Produce specialised pad printed product
ICPPR451C	Set up for complex relief printing
ICPPR452C	Produce specialised relief printed product

Native units in ICP10 Training Package	
Code	Title
ICPPR471C	Set up for complex coating
ICPPR472C	Produce complex coated product
ICPPR484C	Prepare for variable data printing
ICPPR491C	Use on-press monitoring of print quality
ICPPR492C	Use on-press print control devices
ICPPR493C	Set up and monitor in-line printing operations
ICPPR494A	Apply advanced software applications to digital production
ICPPR495A	Set up and use complex colour management for production
ICPPR496A	Set up and produce complex digital print
ICPPR513C	Set up for specialised flexographic printing
ICPPR521C	Set up for specialised gravure printing
ICPPR531C	Set up for specialised lithographic printing
ICPPR541C	Set up for specialised pad printing
ICPPR551C	Set up for specialised relief printing
ICPPR552A	Manage digital production work flow
Screen Printing	
ICPSP211C	Reclaim screen automatically
ICPSP215C	Prepare screen
ICPSP221C	Prepare substrate
ICPSP222C	Prepare and cut screen print substrate
ICPSP233C	Manually prepare direct emulsion stencil
ICPSP235C	Prepare stencil using photographic indirect method
ICPSP270C	Manually prepare and produce screen prints

Native units in ICP10 Training Package	
Code	Title
ICPSP271C	Manually produce basic screen prints
ICPSP273C	Semi-automatically produce basic screen prints
ICPSP275C	Automatically produce basic screen prints
ICPSP281C	Finish screen print products
ICPSP282A	Prepare film for basic screen printing
ICPSP311C	Reclaim screen manually
ICPSP333C	Automatically prepare direct emulsion stencil
ICPSP337D	Prepare stencil using photographic capillary method
ICPSP339C	Prepare stencil using direct projection method
ICPSP341C	Prepare stencil using direct electronic imaging method
ICPSP351C	Prepare machine and drying/curing unit
ICPSP371C	Manually produce complex screen prints
ICPSP373C	Semi-automatically produce complex screen prints
ICPSP374C	Operate a semi-automatic screen printing machine
ICPSP375C	Automatically produce complex screen prints
ICPSP376C	Operate an automatic screen printing machine
ICPSP382C	Produce computer image for screen printing
ICPSP383A	Prepare film for complex screen printing
Support	
ICPSU120C	Pack product
ICPSU201C	Prepare, load and unload reels and cores on and off machine
ICPSU202C	Prepare, load and unload product on and off machine
ICPSU203C	Prepare and maintain the work area

Native units in ICP10 Training Package	
Code	Title
ICPSU207C	Prepare machine for operation (basic)
ICPSU208C	Operate and monitor machines (basic)
ICPSU211C	Prepare ink and additives
ICPSU212C	Prepare coatings and adhesives
ICPSU216C	Inspect quality against required standards
ICPSU221C	Pack and dispatch product
ICPSU222C	Pack and dispatch solid waste
ICPSU224C	Perform basic machine maintenance
ICPSU225C	Perform small machine maintenance
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing
ICPSU243C	Reconcile process outputs
ICPSU260C	Maintain a safe work environment
ICPSU261C	Follow OHS practices and identify environmental hazards
ICPSU262C	Communicate in the workplace
ICPSU263C	Perform basic industry calculations
ICPSU271C	Provide basic instruction for a task
ICPSU280C	Enter data into electronic system
ICPSU281C	Use computer systems
ICPSU311C	Prepare ink and additives (advanced)
ICPSU321C	Pack and dispatch (advanced)
ICPSU323C	Dispose of waste

Native units in ICP10 Training Package	
Code	Title
ICPSU342C	Undertake inventory procedures
ICPSU345C	Purchase materials and schedule deliveries
ICPSU351C	Undertake basic production scheduling
ICPSU352C	Plan operational processes
ICPSU357C	Apply quick changeover procedures
ICPSU362C	Communicate as part of a work team
ICPSU381C	Operate and maintain computer resources
ICPSU389C	Undertake basic root cause analysis
ICPSU417C	Perform laboratory quality tests of materials and finished product
ICPSU455C	Supervise and schedule work of others
ICPSU456C	Control production
ICPSU458C	Monitor production workflow
ICPSU464C	Provide customer service and education
ICPSU482C	Troubleshoot and optimise materials and machinery
ICPSU485C	Implement a Just-in-Time (JIT) system
ICPSU486C	Mistake proof a production process
ICPSU487C	Analyse manual handling processes
ICPSU488C	Ensure process improvements are sustained
ICPSU516C	Set and apply quality standards
ICPSU553C	Prepare production costing estimates
ICPSU554C	Manage teams
ICPSU561C	Implement and monitor OHS
ICPSU583C	Troubleshoot and optimise the production process

Native units in ICP10 Training Package	
Code	Title
ICPSU684C	Determine and improve process capability

Imported units of competency in ICP10 qualifications		
Code	Title	Origin
AUM4012A	Apply quality assurance techniques	AUM08
BSBCMM401A	Make a presentation	BSB07
BSBCUS301B	Deliver and monitor a service to customers	BSB07
BSBCUS401B	Coordinate implementation of customer service strategies	BSB07
BSBCUS501C	Manage quality customer service	BSB07
BSBDES302A	Explore and apply the creative design process to 2D forms	BSB07
BSBDES601A	Manage design realisation	BSB07
BSBFLM309C	Support continuous improvement systems and processes	BSB07
BSBINN201A	Contribute to workplace innovation	BSB07
BSBINN301A	Promote innovation in a team environment	BSB07
BSBIPR601A	Develop and implement strategies for intellectual property management	BSB07
BSBITU306A	Design and produce business documents	BSB07
BSBMGT402A	Implement operational plan	BSB07
BSBMGT403A	Implement continuous improvement	BSB07
BSBMGT515A	Manage operational plan	BSB07
BSBMGT516C	Facilitate continuous improvement	BSB07
BSBMGT608C	Manage innovation and continuous improvement	BSB07
BSBMKG401B	Profile the market	BSB07

Imported units of competency in ICP10 qualifications		
Code	Title	Origin
BSBMKG413A	Promote products and services	BSB07
BSBMKG501B	Identify and evaluate marketing opportunities	BSB07
BSBPMG401A	Apply project scope management techniques	BSB07
BSBPRO401A	Develop product knowledge	BSB07
BSBREL401A	Establish networks	BSB07
BSBREL402A	Build client relationships and business networks	BSB07
BSBSLS407B	Identify and plan sales prospects	BSB07
BSBSLS408B	Present, secure and support sales solutions	BSB07
BSBSLS501A	Develop a sales plan	BSB07
BSBSMB301A	Investigate micro business opportunities	BSB07
BSBSMB402A	Plan small business finances	BSB07
BSBSMB403A	Market the small business	BSB07
BSBSMB404A	Undertake small business planning	BSB07
BSBSUS201A	Participate in environmentally sustainable work practices	BSB07
BSBSUS301A	Implement and monitor environmentally sustainable work practices	BSB07
BSBSUS501A	Develop workplace policy and procedures for sustainability	BSB07
BSBWOR301B	Organise personal work priorities and development	BSB07
BSBWOR402A	Promote team effectiveness	BSB07
BSBWOR404B	Develop work priorities	BSB07
BSBWOR501B	Manage personal work priorities and professional development	BSB07
BSBWOR502B	Ensure team effectiveness	BSB07
CUFANM301A	Create 2D digital animation	CUF07

Imported units of competency in ICP10 qualifications		
Code	Title	Origin
CUFANM302A	Create 3D digital animations	CUF07
CUFANM303A	Create 3D digital models	CUF07
CUFANM401A	Prepare 3D digital models for production	CUF07
CUFANM403A	Create titles for screen productions	CUF07
CUFANM503A	Design animation and digital visual effects	CUF07
CUFCMP301A	Implement copyright arrangements	CUF07
CUFDIG201A	Maintain interactive content	CUF07
CUFDIG302A	Author interactive sequences	CUF07
CUFDIG304A	Create visual design components	CUF07
CUFDIG401A	Author interactive media	CUF07
CUFDIG403A	Create user interfaces	CUF07
CUFDIG404A	Apply scripting language to authoring	CUF07
CUFDIG501A	Coordinate the testing of interactive media products	CUF07
CUFDIG502A	Design web environments	CUF07
CUFDIG503A	Design e-learning resources	CUF07
CUFDIG504A	Design games	CUF07
CUFDIG505A	Design information architecture	CUF07
CUVACD101A	Use basic drawing techniques	CUV11
CUVACD201A	Develop drawing skills to communicate ideas	CUV11
CUVACD401A	Integrate colour theory and design processes	CUV11
CUVGRD302A	Use typography techniques	CUV11
ICADBS503A	Create a data warehouse	ICA11
ICADBS504A	Integrate database with a website	ICA11

Imported units of competency in ICP10 qualifications		
Code	Title	Origin
ICANWK414A	Create a common gateway interface script	ICA11
ICANWK414A	Create a common gateway interface script	ICA11
ICAWEB409A	Develop cascading style sheets	ICA11
ICAWEB410A	Apply web authoring tool to convert client data for websites	ICA11
ICAWEB418A	Use development software and IT tools to build a basic website	ICA11
ICAWEB419A	Develop guidelines for uploading information to a website	ICA11
ICAWEB421A	Ensure website content meets technical protocols and standards	ICA11
ICAWEB429A	Create a markup language document to specification	ICA11
ICAWEB502A	Create dynamic web pages	ICA11
ICAWEB510A	Analyse information and assign meta-tags	ICA11
MSACMC410A	Lead change in a manufacturing environment	MSA07
MSACMS200A	Apply competitive manufacturing practices	MSA07
MSACMS201A	Sustain process improvements	MSA07
MSACMC210A	Manage the impact of change on own work	MSA07
MSACMT230A	Apply cost factors to work practices	MSA07
MSACMT240A	Apply 5S procedures in a manufacturing environment	MSA07
MSACMT270A	Use sustainable energy practices	MSA07
MSACMT271A	Use sustainable environmental practices	MSA07
MSACMT440A	Lead 5S in a manufacturing environment	MSA07
MSAENV272B	Participate in environmentally sustainable work practices	MSA07
MSAENV472B	Implement and monitor environmentally sustainable work practices	MSA07
MSACMT280A	Undertake root cause analysis	MSA07

Imported units of competency in ICP10 qualifications		
Code	Title	Origin
MSAPMSUP390 A	Use structured problem solving tools	MSA07
MSACMT621A	Develop a just-in-time (JIT) system	MSA07
MSL933001A	Maintain the laboratory/field workplace fit for purpose	MSL09
MSL954001A	Obtain representative samples in accordance with sampling plan	MSL09
MSL973001A	Perform basic tests	MSL09
MSL973002A	Prepare working solutions	MSL09
MSL974001A	Prepare, standardise and use solutions	MSL09
SIRXCCS005A	Manage business customers	SIR07
SIRXCCS006A	maintain business to business relationships	SIR07
SIRXSLS001A	Sell products and services	SIR07
SIRXSLS002A	Advise on products and services	SIR07
SIRXSLS008A	Develop a sales strategy	SIR07
TAEASS402B	Assess competence	TAE10
TAEDEL402A	Plan, organise and facilitate learning in the workplace.	TAE10
TLIA2041A	Manually sort mail and parcels	TLI07
TLIA2043A	Consolidate mail	TLI07
TLIA2047A	Stream mail	TLI07
TLIW3006A	Operate computerised mail and parcels sorting equipment	TLI07

Units in ICP10 qualifications with prerequisites		
Code	Title	Prerequisite unit
CUFANM401 A	Create 3D digital models for production	CUFANM303A Create 3D digital models

Units in ICP10 qualifications with prerequisites		
Code	Title	Prerequisite unit
ICPCF3100C	Run and monitor in-line tube making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF3101C	Run and monitor in-line bottom making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF3102C	Set up and monitor in-line scoring, folding and gluing machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF398C	Set up in-line bottom making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF399C	Set up in-line tube making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPMM491D	Create an extensible document	ICAWEB429A Create a markup language document to specification
ICPMM492D	Create an extensible style sheet	ICAWEB429A Create a markup language document to specification
ICPPP311C	Develop a detailed design concept	ICPPP211C Develop a basic design concept
ICPPP321C	Produce a typographic image	ICPPP221C Select and apply type
ICPPP324C	Create pages using a page layout application	ICPPP224C Produce pages using a page layout application
ICPPP396A	Generate high-end PDF files	ICPPP284A Produce PDF files for online or screen display
ICPPP411C	Undertake a complex design brief	ICPPP311C Develop a detailed design concept
ICPPP421C	Compose and evaluate typography	ICPPP221C Select and apply type

Units in ICP10 qualifications with prerequisites		
Code	Title	Prerequisite unit
ICPPP452C	Output complex images direct to plate or press	ICPPP352C Output complex images
ICPPP485C	Develop a digital data template	ICPPP385C Operate a database for digital printing
ICPPP494C	Develop document content and structure	ICPPP396A Generate high-end PDF files
ICPPR385A	Apply software applications to digital production	ICPSU281C Use computer systems
ICPPR387A	Use colour management for production	ICPPR284A Introduction to colour management
ICPPR494A	Apply advanced software applications to digital production	ICPPR385A Apply software applications to digital production
ICPPR495A	Set up and use complex colour management for production	ICPPR387A Use colour management for production
ICPPR496A	Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print
ICPSU311C	Prepare ink and additives (advanced)	ICPSU211C Prepare ink and additives
ICPSU458C	Monitor production workflow	ICPSU216C Inspect quality against required standards

Mapping of Qualifications

Mapping to Previous Training Package versions			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICP10 v2.0	Qualification code and title ICP10 v1.0	Comments	E/N
ICP20110 Certificate II in Printing and Graphic Arts (General)	ICP20110 Certificate II in Printing and Graphic Arts (General)	Updated equivalent elective units.	E
ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing)	ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing)	Updated equivalent elective units.	E
ICP20310 Certificate II in Printing and Graphic Arts (Digital Printing)	ICP20310 Certificate II in Printing and Graphic Arts (Digital Printing)	Updated equivalent elective units.	E
ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production)	ICP30110 Certificate III in Printing and Graphic Arts (Graphic Design Production)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press)	ICP30210 Certificate III in Printing and Graphic Arts (Graphic Pre-press)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30312 Certificate III in Printing and Graphic Arts (Multimedia)	ICP30310 Certificate III in Printing and Graphic Arts (Multimedia)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable	E

Mapping to Previous Training Package versions			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICP10 v2.0	Qualification code and title ICP10 v1.0	Comments	E/N
		work practices. Updated equivalent elective units.	
ICP30412 Certificate III in Printing and Graphic Arts (Digital Printing)	ICP30410 Certificate III in Printing and Graphic Arts (Digital Printing)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30512 Certificate III in Printing and Graphic Arts (Printing)	ICP30510 Certificate III in Printing and Graphic Arts (Printing)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing)	ICP30610 Certificate III in Printing and Graphic Arts (Screen Printing)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing)	ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable	E

Mapping to Previous Training Package versions			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICP10 v2.0	Qualification code and title ICP10 v1.0	Comments	E/N
		work practices.	
ICP30812 Certificate III in Printing and Graphic Arts (Sacks and Bags)	ICP30810 Certificate III in Printing and Graphic Arts (Sacks and Bags)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Updated equivalent elective units.	E
ICP30912 Certificate III in Printing and Graphic Arts (Cartons and Corrugating)	ICP30910 Certificate III in Printing and Graphic Arts (Cartons and Corrugating)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices.	E
ICP31012 Certificate III in Printing and Graphic Arts (Mail House)	ICP31010 Certificate III in Printing and Graphic Arts (Mail House)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices. Elective unit ICPKN313C replaced with ICPKN318C. Updated equivalent elective units.	E
ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture)	ICP31110 Certificate III in Printing and Graphic Arts (Ink Manufacture)	Core unit BSBSUS301A Implement and monitor environmentally sustainable work practices replaced with BSBSUS201A Participate in environmentally sustainable work practices.	E

Mapping to Previous Training Package versions			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICP10 v2.0	Qualification code and title ICP10 v1.0	Comments	E/N
ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)	ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)	Updated equivalent elective units.	E
ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)	ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)	Updated equivalent elective units.	E
ICP40310 Certificate IV in Printing and Graphic Arts (Printing)	ICP40310 Certificate IV in Printing and Graphic Arts (Printing)	Updated equivalent elective units.	E
ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)	ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)	Updated equivalent elective units.	E
ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)	ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)	Updated equivalent elective units. Group A elective unit ICPKN313C replaced with ICPKN318C.	E
ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)	ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)	Updated equivalent elective units.	E
ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership)	ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership)	Updated equivalent elective units.	E
ICP50110 Diploma of Printing and Graphic Arts (Digital Production)	ICP50110 Diploma of Printing and Graphic Arts (Digital Production)	Updated equivalent elective units.	E
ICP50210 Diploma of Printing and Graphic Arts (Multimedia)	ICP50210 Diploma of Printing and Graphic Arts (Multimedia)	Updated equivalent elective units.	E
ICP50310 Diploma of Printing and Graphic Arts (Printing)	ICP50310 Diploma of Printing and Graphic Arts (Printing)	Updated equivalent elective units.	E

Mapping to Previous Training Package versions			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICP10 v2.0	Qualification code and title ICP10 v1.0	Comments	E/N
ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)	ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)	Updated equivalent elective units.	E
ICP50510 Diploma of Printing and Graphic Arts (Process Improvement)	ICP50510 Diploma of Printing and Graphic Arts (Process Improvement)	Updated equivalent elective units.	E

Mapping of Units of Competency Key: E = equivalent, N = not equivalent			
Unit of competency code and title ICP10 v2.0	Unit of competency code and title ICP10 v1.0	Comments	E/N
ICPMM491D Create an extensible document	ICPMM491C Create an extensible document	Prerequisite unit requirement updated to equivalent current version: ICAWEB429A Create a markup language document to specification, version identifier changed	E
ICPMM492D Create an extensible style sheet	ICPMM492C Create an extensible style sheet	Prerequisite unit requirement updated to equivalent current version: ICAWEB429A Create a markup language document to specification, version identifier changed	E
ICPPP284B Produce PDF files for online or screen display	ICPPP284A Produce PDF files for online or screen display	Typographical error corrected in performance criterion 6.3, version identifier changed	E
ICPSP337D Prepare stencil using photographic capillary method	ICPSP337C Prepare stencil using photographic capillary method	Critical aspects of evidence corrected to reflect unit focus (capillary stencils and associated methodology), version identifier changed	E
No other native ICP10 units were changed, added or removed as a result of the release of Version 2 of ICP10.			

Explanation of the review date

The review date (shown on the title page and in the header of each page) indicates when the Training Package is expected to be reviewed in the light of changes such as changing technologies and circumstances. The review date is not an expiry date. Endorsed Training Packages and their components remain current until they are reviewed or replaced.

Overview

What is a Training Package?

A Training Package is an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework (AQF) qualifications for a specific industry, industry sector or enterprise.

Each Training Package:

- provides a consistent and reliable set of components for training, recognising and assessing peoples skills, and may also have optional support materials
- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

The National Skills Framework applies nationally, is endorsed by the Ministerial Council for Vocational and Technical Education, and comprises the Australian Quality Training Framework 2007 (AQTF 2007), and Training Packages endorsed by the National Quality Council (NQC).

How are Training Packages developed?

Training Packages are developed by Industry Skills Councils or enterprises to meet the identified training needs of specific industries or industry sectors. To gain national endorsement of Training Packages, developers must provide evidence of extensive research, consultation and support within the industry area or enterprise.

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace without prescribing how people should be trained.

Training Packages acknowledge that people can achieve vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification, without completing a formal training program.

With Training Packages, assessment and training may be conducted at the workplace, off-the-job, at a training organisation, during regular work, or through work experience, work placement, work simulation or any combination of these.

Who can deliver and assess using Training Packages?

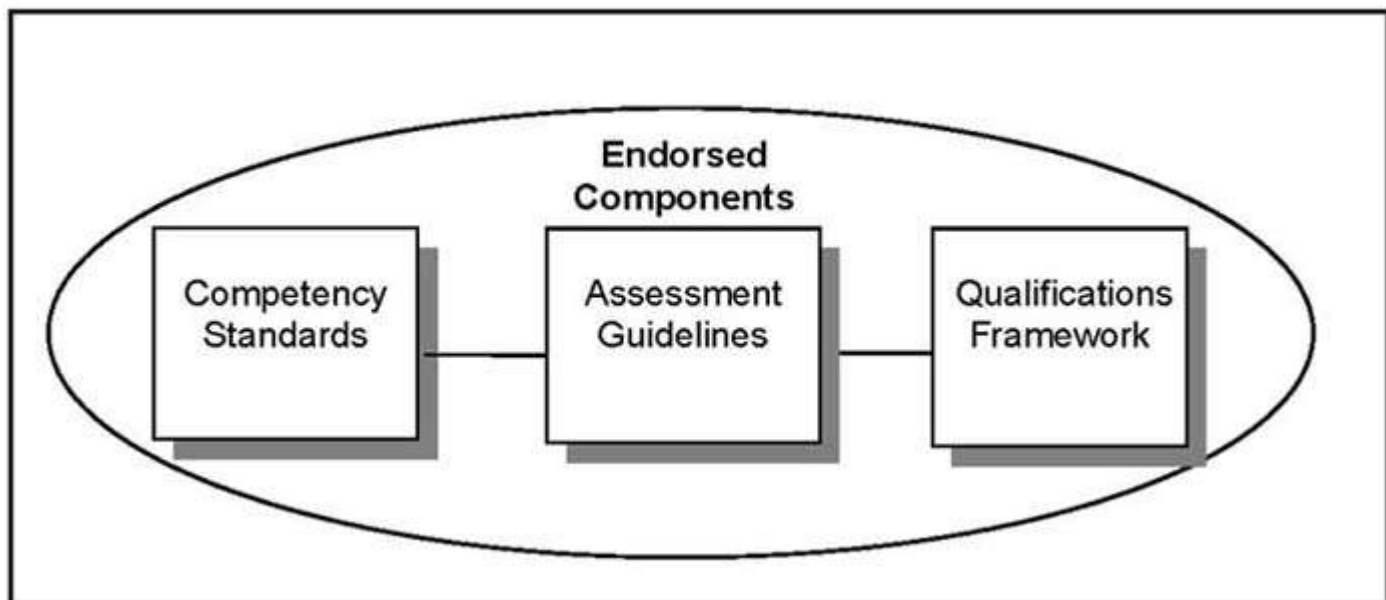
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2007.

Training Package Components

Training Packages are made up of mandatory components endorsed by the NQC, and optional support materials.

Training Package Endorsed Components

The nationally endorsed components include the Competency Standards, Assessment Guidelines and Qualifications Framework. These form the basis of training and assessment in the Training Package and, as such, they must be used.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes.

Assessment Guidelines

The Assessment Guidelines provide an industry framework to ensure all assessments meet industry needs and nationally agreed standards as expressed in the Training Package and the AQTF 2007. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

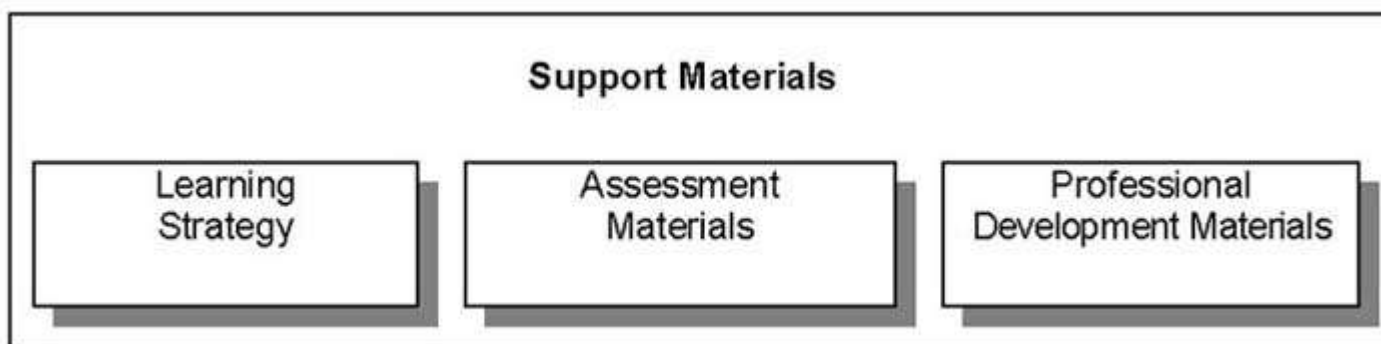
Qualifications Framework

Each Training Package provides details of those units of competency that must be achieved to award AQF qualifications. The rules around which units of competency can be combined to make up a valid AQF qualification in the Training Package are referred to as the "packaging rules". The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

Training Package Support Materials

The endorsed components of Training Packages are complemented and supported by optional support materials that provide for choice in the design of training and assessment to meet the needs of industry and learners.

Training Package support materials can relate to single or multiple units of competency, an industry sector, a qualification or the whole Training Package. They tend to fall into one or more of the categories illustrated below.



Training Package support materials are produced by a range of stakeholders such as RTOs, individual trainers and assessors, private and commercial developers and Government agencies.

Where such materials have been quality assured through a process of "noting" by the NQC, they display the following official logo. Noted support materials are listed on the National Training Information Service (NTIS), together with a detailed description and information on the type of product and its availability < www.ntis.gov.au >.



It is not compulsory to submit support materials for noting; any resources that meet the requirements of the Training Package can be used.

Training Package, Qualification and Unit of Competency Codes

There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, **and with the code always before the title.**

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example FNS10. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example FNS10110. Qualification codes are developed as follows:

- the first three letters identify the Training Package;
- the first number identifies the qualification level (noting that, in the qualification titles themselves, arabic numbers are **not** used);
- the next two numbers identify the position in the sequence of the qualification at that level; and
- the last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications as they identify the year in which those particular qualifications were endorsed.)

Unit of Competency Codes

Within each Training Package, each unit of competency has a unique code. Unit of competency codes are assigned when the Training Package is endorsed, or when new units of competency are added to an existing endorsed Training Package. Unit codes are developed as follows:

- a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in ICPKN321A;
- the first three characters signify the Training Package - ICP10 - in the above example and up to eight characters, relating to an industry sector, function or skill area, follow;

- the last character is always a letter and identifies the unit of competency version. An "A" at the end of the code indicates that this is the original unit of competency. "B", or another incremented version identifier means that minor changes have been made. Typically this would mean that wording has changed in the range statement or evidence guide, providing clearer intent; and
- where changes are made that alter the outcome, a new code is assigned and the title is changed.

Training Package, Qualification and Unit of Competency Titles

There are agreed conventions for titling Training Packages and their components. Always use the correct titles, exactly as they appear in the Training Package, and with the code always placed before the title.

Training Package Titles

The title of each endorsed Training Package is unique and relates the Training Packages broad industry coverage.

Qualification Titles

The title of each endorsed Training Package qualification is unique. Qualification titles use the following sequence:

- first, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma, Advanced Diploma, Vocational Graduate Certificate, or Vocational Graduate Diploma;
- this is followed by the words "in" for Certificates I to IV, and "of" for Diploma, Advanced Diploma, Vocational Graduate Certificate and Vocational Graduate Diploma;
- then, the industry descriptor, for example Telecommunications; and
- then, if applicable, the occupational or functional stream in brackets, for example (Computer Systems).

For example:

- ICPCF105C Operate in-line mail machine

Unit of Competency Titles

Each unit of competency title is unique. Unit of competency titles describe the competency outcome concisely, and are written in sentence case.

For example:

- ICPCF105C Operate in-line mail machine

Historical and General Information

The ICP10 Printing and Graphic Arts Training Package covers all aspects of the printing and graphic arts industry from design through to the production of products in material or electronic form.

The ICP10 Printing and Graphic Arts Training Package contains 385 units of competency – 291 ICP specific and 94 imported units of competency and 34 qualifications. There are eight competency streams or groups:

- Support – SU
- Pre-press – PP
- Multimedia – MM
- Printing – PR
- Screen printing – SP
- Converting, binding and finishing – CF
- Ink manufacture – IM
- Knowledge – KN

In 2009 industry identified a need for broadly based training in Digital Technology to be included in ICP05. The Training Package was enhanced to:

- incorporate relevant digital units into the Certificate III in Printing and Graphic Arts (Printing) as elective units
- ICP20305 Certificate II in Printing and Graphic Arts (Instant Print) and ICP30405 Certificate III in Printing and Graphic Arts (Instant Print) were modified to include the relevant digital units. The qualifications were then re-coded and re-titled as (Digital Printing).

All other qualifications were updated to include environmental units and a range of additional elective units. The packaging rules were also changed to remove all ambiguities and create greater flexibility.

Introduction to the Industry

The printing and graphic arts industry is a major manufacturing industry in Australia and its products are used by every other industry sector. It is a critical, enabling industry supporting the operations of businesses and organisations across all industry sectors.

Of the estimated 6,900 enterprises in the printing and graphic arts industry approximately 6,000 (or 88%) of them are small businesses with fewer than 20 employees. The major sectors within the printing and graphic arts industry are:

- Printing
- Graphic media
- Converting, binding and finishing

- Sacks and bags
- Mail house
- Cartons and corrugations
- Ink manufacture.

In February 2010 approximately 53,000 people were employed in the printing and graphic arts industry, with the majority working full time. The median age of workers in 2009 was 42 years.

The printing industry is male-dominated with male workers making up 68.2% of the total workforce in the year to February 2009. The industry has a predominantly full-time workforce with 84.9% of workers employed full-time in the year to February 2009, well above the all-industry figure of 71.5%.

In 2010 attention was drawn to the ageing of the printing industry workforce due to the low number of new workforce entrants over recent years. This may well change with the technological changes occurring in the industry – it is likely that it will become more attractive to new and younger entrants.¹

The Australian Government report *Employment Outlook for Manufacturing*, produced by the Department of Education, Employment and Workplace Relations (DEEWR), 2010², includes information on the ‘Printing (including Recorded Media)’ workforce. It can be found at www.skillsinfo.gov.au.

¹ IBSA, 2011, *Environmental Scan 2011 – Printing and Graphic Arts Industry* p.28

² Available from <http://www.skillsinfo.gov.au/NR/rdonlyres/E05ABD76-D7EC-4EB4-9C3E-E2E9A1D0E259/0/OutlookManufacturing.pdf>

Qualifications Framework

The Australian Qualifications Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the *AQF Implementation Handbook*. The 2007 version of the *AQF Implementation Handbook* is expected to be available on the Australian Qualifications Framework Advisory Board (AQFAB) website www.aqf.edu.au during September 2007, and in print in October 2007 (obtain the hard copy by contacting AQFAB on phone 03 9639 1606 or email at aqfab@curriculum.edu.au).

The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications.

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the AQTF 2007 *Essential Standards for Registration*.

Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/course(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the AQTF 2007 *Essential Standards for Registration*.

Under the AQTF 2007, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The *AQF Implementation Handbook* provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate I

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate knowledge by recall in a narrow range of areas;
- demonstrate basic practical skills, such as the use of relevant tools;
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning.

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team co-ordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others.

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgment is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team co-ordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes.

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of new criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters.

Vocational Graduate Certificate

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.
- Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.
- Generate and evaluate ideas through the analysis of information and concepts at an abstract level.
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.
- Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

Vocational Graduate Diploma

Characteristics of competencies or learning outcomes

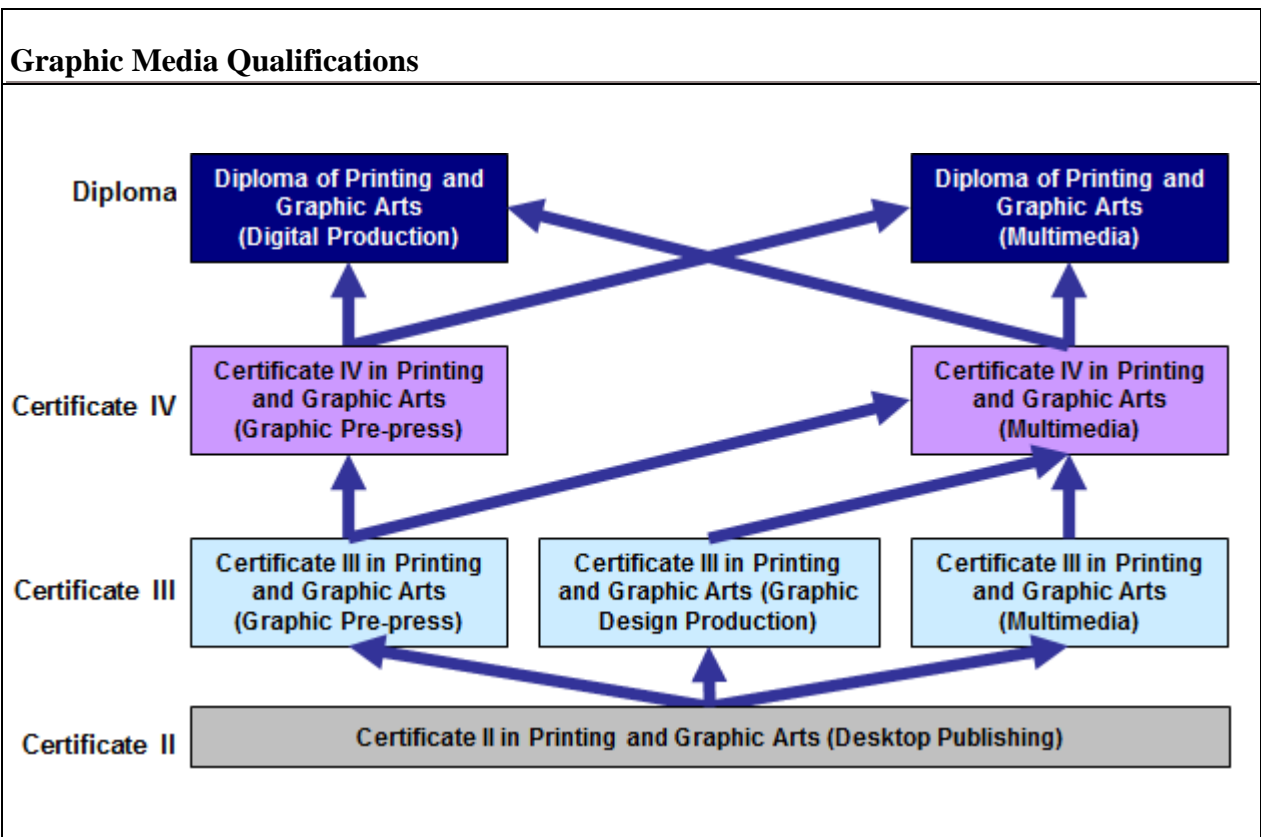
- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

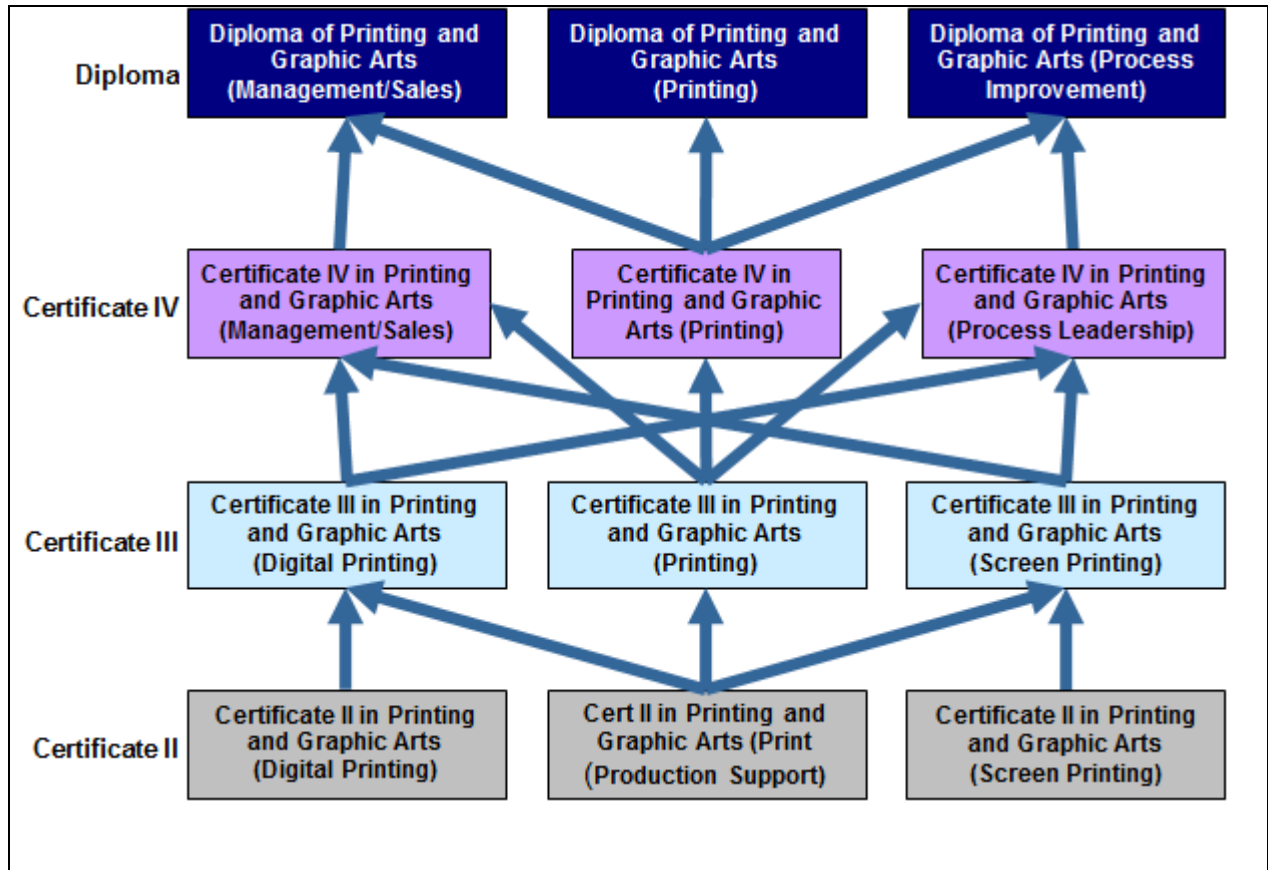
- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.
- Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.
- Demonstrate full responsibility and accountability for personal outputs.
- Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.

Qualification Pathways

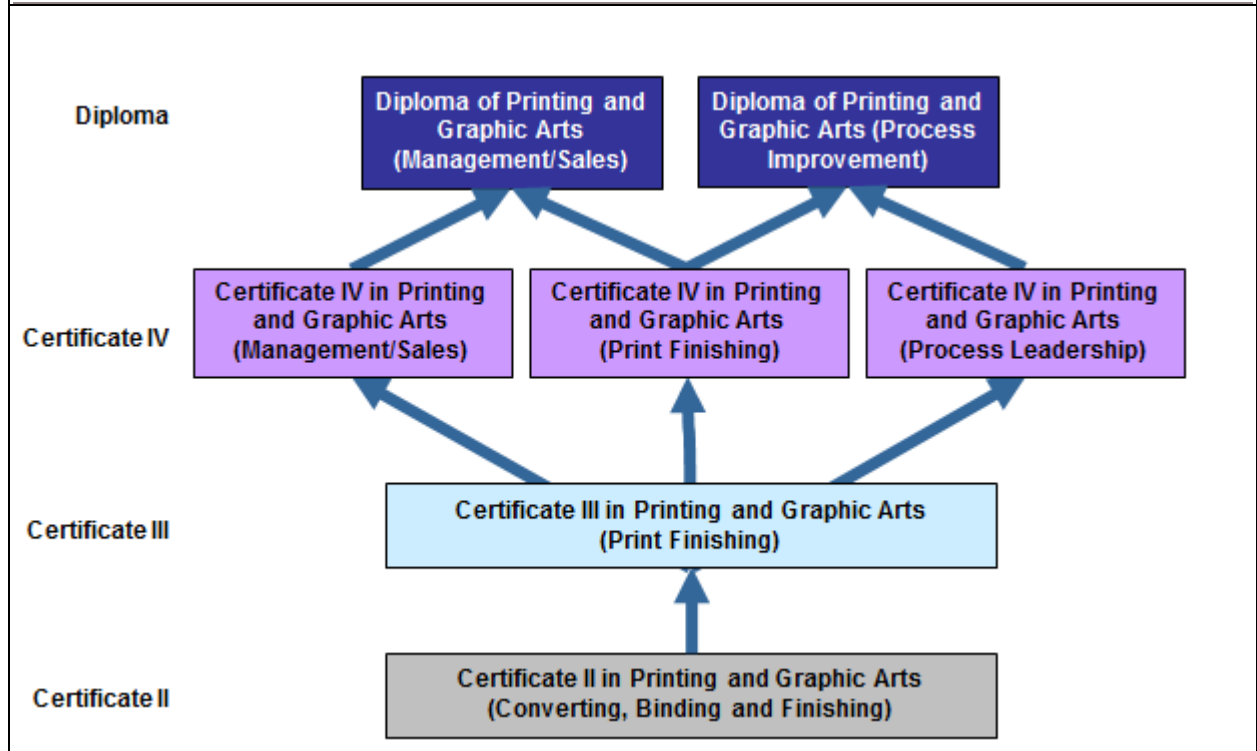
The following pathways charts are provided to show the types of pathways into and from qualifications that are possible with this Training Package. For more information about qualifications and pathways contact Innovation and Business Industry Skills Council (<http://www.ibsa.org.au>).

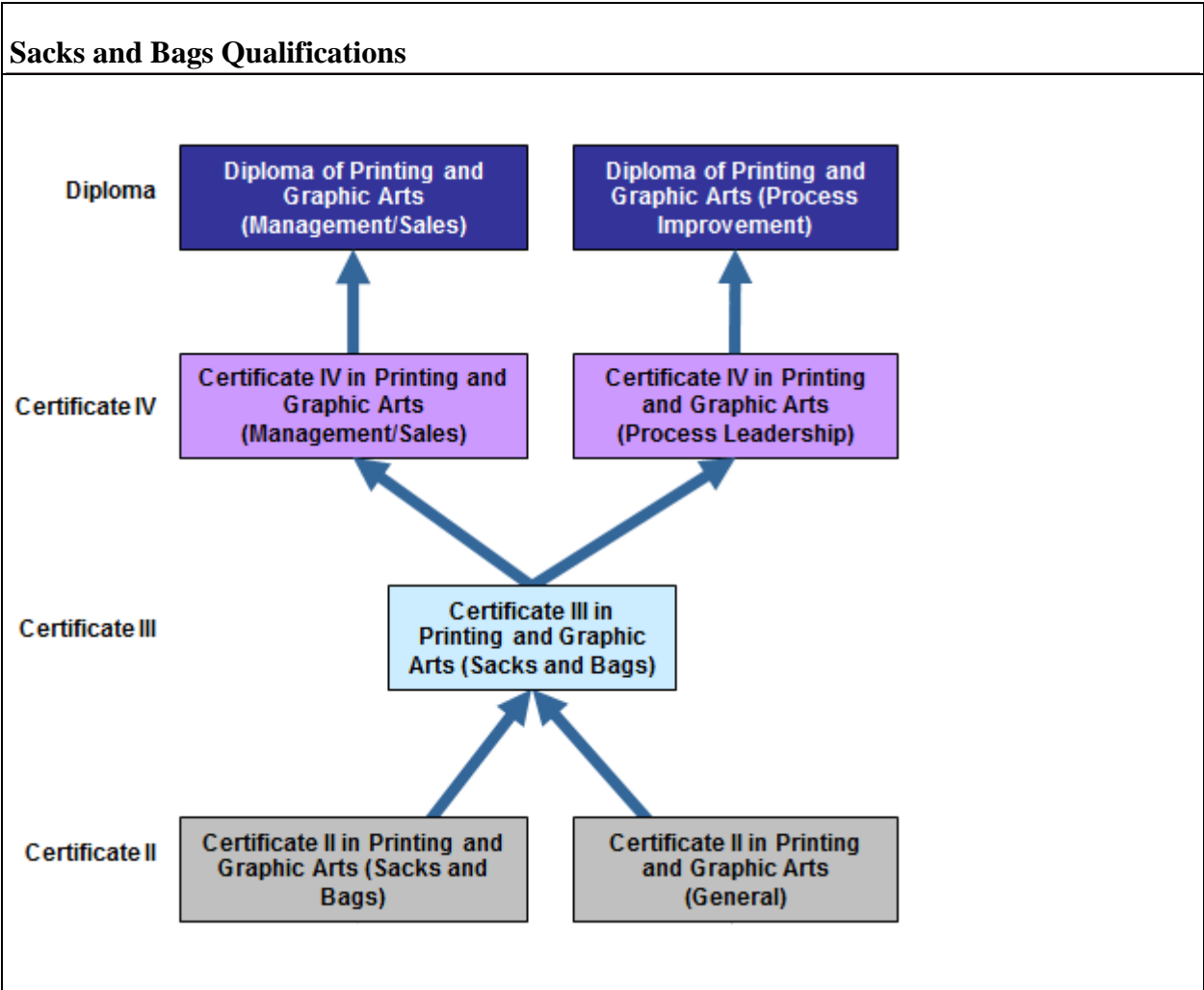


Printing Qualifications

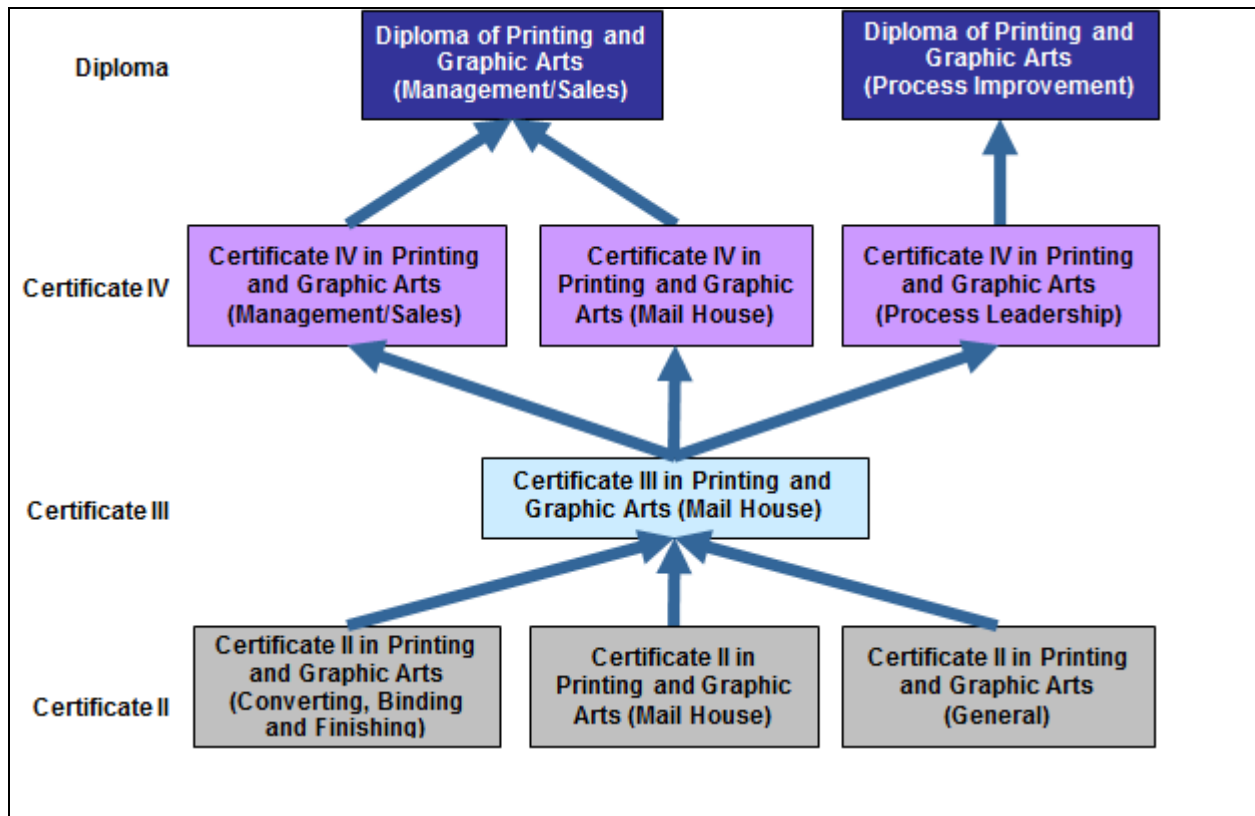


Converting, Binding and Finishing Qualifications

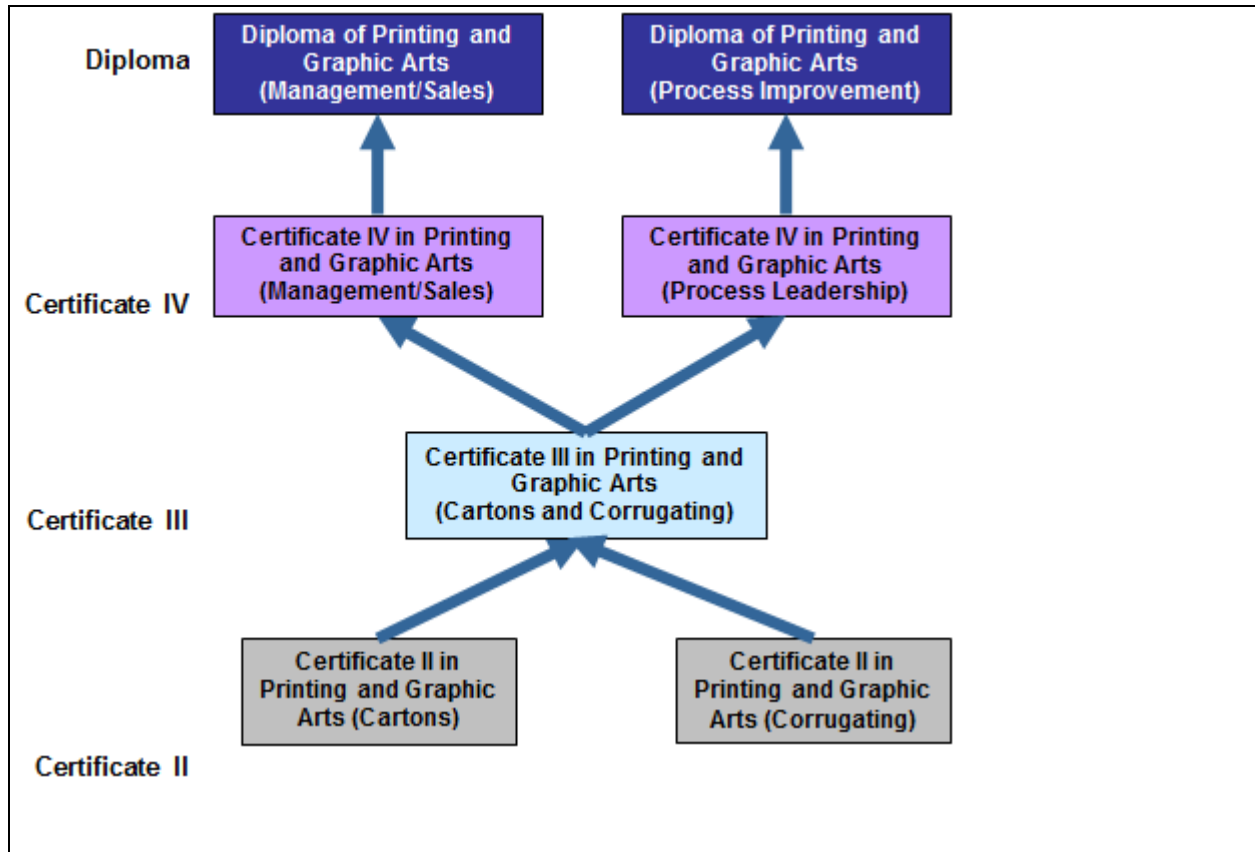




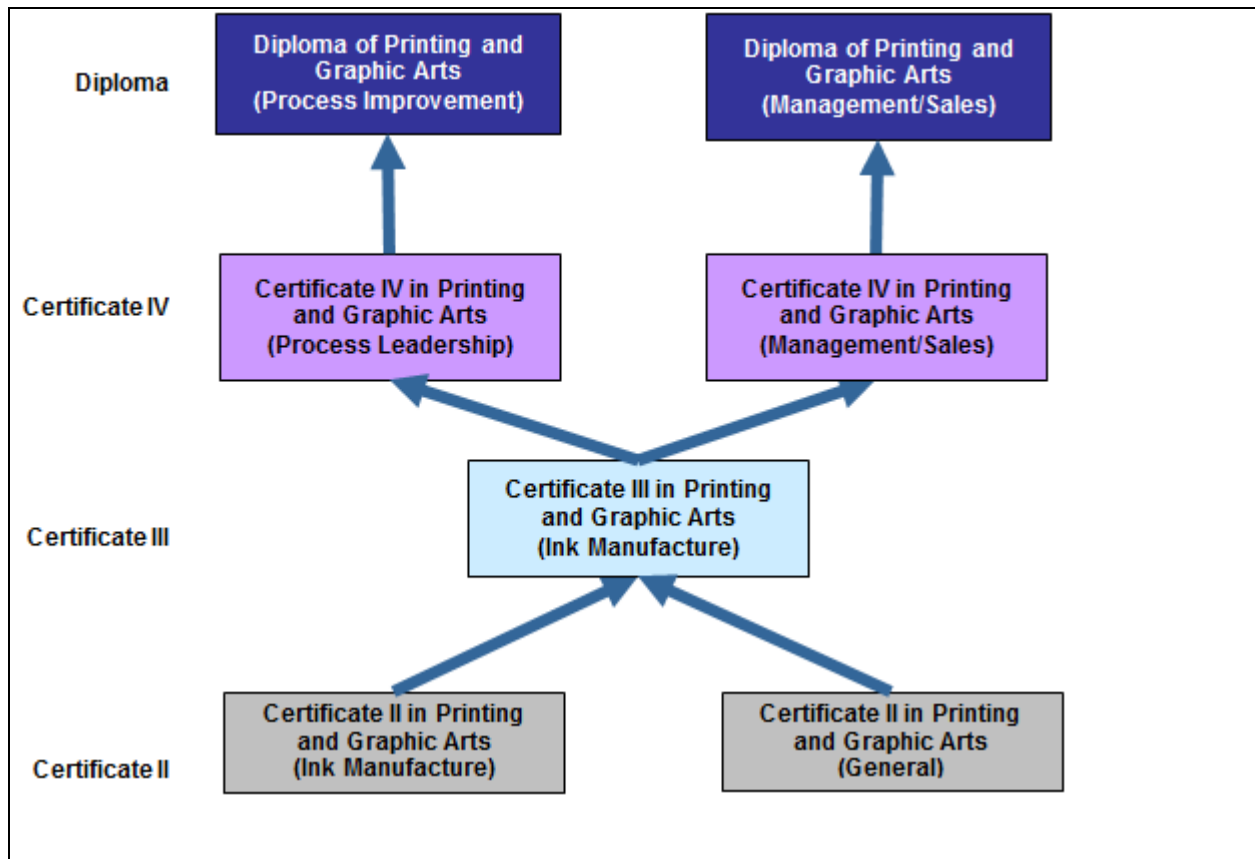
Mail House Qualifications



Cartons and Corrugating Qualifications



Ink Manufacture Qualifications



Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

Wording on Statements of Attainment

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording "these competencies meet [insert skill set title or identified industry area] need" on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2007 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment the updated version is expected to be available on the AQFAB website www.aqf.edu.au during September 2007 and in print in October 2007.

Skill Sets in this Training Package

Where this section is blank, nationally recognised skill sets have yet to be identified in this industry.

Employability Skills

Employability Skills replacing Key Competency information from 2006

In May 2005, the approach to incorporate Employability Skills within Training Package qualifications and units of competency was endorsed. As a result, from 2006 Employability Skills will progressively replace Key Competency information in Training Packages.

Background to Employability Skills

Employability Skills are also sometimes referred to as generic skills, capabilities or Key Competencies. The Employability Skills discussed here build on the Mayer Committee's Key Competencies, which were developed in 1992 and attempted to describe generic competencies for effective participation in work.

The Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI), produced the *Employability Skills for the Future* report in 2002 in consultation with other peak employer bodies and with funding provided by the Department of Education, Science and Training (DEST) and the Australian National Training Authority (ANTA). Officially released by Dr Nelson (Minister for Education, Science and Training) on 23 May 2002, copies of the report are available from the DEST website at: http://www.dest.gov.au/archive/ty/publications/employability_skills/index.htm.

The report indicated that business and industry now require a broader range of skills than the Mayer Key Competencies Framework and featured an Employability Skills Framework identifying eight Employability Skills*:

- communication
- teamwork
- problem solving
- initiative and enterprise
- planning and organising
- self-management
- learning
- technology.

The report demonstrated how Employability Skills can be further described for particular occupational and industry contexts by sets of facets. The facets listed in the report are the aspects of the Employability Skills that the sample of employers surveyed identified as being important work skills. These facets were seen by employers as being dependent both in their nature and priority on an enterprise's business activity.

*Personal attributes that contribute to employability were also identified in the report but are not part of the Employability Skills Framework.

Employability Skills Framework

The following table contains the Employability Skills facets identified in the report *Employability Skills for the Future*.

Skill	Facets Aspects of the skill that employers identify as important. The nature and application of these facets will vary depending on industry and job type.
Communication that contributes to productive	<ul style="list-style-type: none"> • listening and understanding • speaking clearly and directly
and harmonious relations across employees and customers	<ul style="list-style-type: none"> • writing to the needs of the audience • negotiating responsively • reading independently • empathising • using numeracy effectively • understanding the needs of internal and external customers • persuading effectively • establishing and using networks • being assertive • sharing information • speaking and writing in languages other than English
Teamwork that contributes to productive working relationships and outcomes	<ul style="list-style-type: none"> • working across different ages irrespective of gender, race, religion or political persuasion • working as an individual and as a member of a team • knowing how to define a role as part of the team • applying teamwork to a range of situations e.g. futures planning and crisis problem solving • identifying the strengths of team members • coaching and mentoring skills, including giving feedback
Problem solving that contributes to productive outcomes	<ul style="list-style-type: none"> • developing creative, innovative and practical solutions • showing independence and initiative in identifying and solving problems • solving problems in teams • applying a range of strategies to problem solving • using mathematics, including budgeting and financial management to solve problems

	<ul style="list-style-type: none"> • applying problem-solving strategies across a range of areas • testing assumptions, taking into account the context of data and circumstances • resolving customer concerns in relation to complex project issues
Initiative and enterprise that contribute to innovative outcomes	<ul style="list-style-type: none"> • adapting to new situations • developing a strategic, creative and long-term vision • being creative • identifying opportunities not obvious to others • translating ideas into action • generating a range of options • initiating innovative solutions
Planning and organising that contribute to long and short-term strategic planning	<ul style="list-style-type: none"> • managing time and priorities - setting time lines, coordinating tasks for self and with others • being resourceful • taking initiative and making decisions • adapting resource allocations to cope with contingencies • establishing clear project goals and deliverables • allocating people and other resources to tasks • planning the use of resources, including time management • participating in continuous improvement and planning processes • developing a vision and a proactive plan to accompany it • predicting - weighing up risk, evaluating alternatives and applying evaluation criteria • collecting, analysing and organising information • understanding basic business systems and their relationships
Self-management that contributes to employee satisfaction and growth	<ul style="list-style-type: none"> • having a personal vision and goals • evaluating and monitoring own performance • having knowledge and confidence in own ideas and visions • articulating own ideas and visions • taking responsibility

<p>Learning that contributes to ongoing improvement and expansion in employee and company operations and outcomes</p>	<ul style="list-style-type: none"> • managing own learning • contributing to the learning community at the workplace • using a range of mediums to learn - mentoring, peer support and networking, IT and courses • applying learning to technical issues (e.g. learning about products) and people issues (e.g. interpersonal and cultural aspects of work) • having enthusiasm for ongoing learning • being willing to learn in any setting - on and off the job • being open to new ideas and techniques • being prepared to invest time and effort in learning new skills • acknowledging the need to learn in order to accommodate change
<p>Technology that contributes to the effective carrying out of tasks</p>	<ul style="list-style-type: none"> • having a range of basic IT skills • applying IT as a management tool • using IT to organise data • being willing to learn new IT skills • having the OHS knowledge to apply technology • having the appropriate physical capacity

Employability Skills Summary

An Employability Skills Summary exists for each qualification. Summaries provide a lens through which to view Employability Skills at the qualification level and capture the key aspects or facets of the Employability Skills that are important to the job roles covered by the qualification. Summaries are designed to assist trainers and assessors to identify and include important industry application of Employability Skills in learning and assessment strategies.

The following is important information for trainers and assessors about Employability Skills Summaries.

- Employability Skills Summaries provide examples of how each skill is applicable to the job roles covered by the qualification.
- Employability Skills Summaries contain general information about industry context which is further explained as measurable outcomes of performance in the units of competency in each qualification.
- The detail in each Employability Skills Summary will vary depending on the range of job roles covered by the qualification in question.

- Employability Skills Summaries are not exhaustive lists of qualification requirements or checklists of performance (which are separate assessment tools that should be designed by trainers and assessors after analysis at the unit level).
- Employability Skills Summaries contain information that may also assist in building learners' understanding of industry and workplace expectations.

Industry requirements for Employability Skills

ICP10 Printing and Graphic Arts Training Package seeks to ensure that industry-endorsed employability skills are explicitly embedded in units of competency. The application of each skill and the level of detail included in each part of the unit will vary according to industry requirements and the nature of the unit of competency.

Employability skills are both explicit and embedded within units of competency. This means that employability skills are:

- embedded in units of competency as part of the other performance requirements that make up the competency as a whole
- explicitly described within units of competency to enable Training Package users to identify accurately the performance requirements of each unit with regards to employability skills.

Examples from this Training Package of Employability Skills

Examples from this Training Package of Employability Skills embedded within unit components

Unit Component	Example of embedded Employability Skill
Unit Title	Set up and use complex colour management for production (technology)
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to create profiles and finger-print presses to obtain the best match across colour devices (technology)
Element	Create and use digital device profiles (initiate and enterprise, technology, planning and organising)
Performance Criteria	Press is optimised to workplace standards in collaboration with the press operator (technology, communication, teamwork)
Range Statement	Software may include: <ul style="list-style-type: none"> • colour management software (e.g. Colorsync) • profile creating software • scanner profiling software (e.g. Colortone Pro, Scan Open) • densitometry and spectrophotometry software (technology)
Required Skills and Knowledge	<ul style="list-style-type: none"> • skills needed to communicate ideas and information by printing a test chart on a press • skills needed in collecting, analysing and organising information to determine printing conditions and colour management requirements • planning and organising skills needed to clarify colour requirements before generating a proof • teamwork skills for maintaining the production process in association with others and working independently with responsibility for others • numeracy skills used in relation to densitometry, spectrophotometry and colour profiles • problem-solving skills used in diagnosing and correcting colour problems • skills needed for utilising software and hardware correctly when creating a profile (technology, communication, teamwork, problem solving, self management, planning and organising)

Unit Component	Example of embedded Employability Skill
Evidence Guide	Evidence of the ability to: <ul style="list-style-type: none"> • create custom device profiles in a digital production workflow to enhance the match across proofs, monitors and final products (planning and organising, technology, problem solving) • find and use information relevant to the task from a variety of information sources (self-management, technology)

Qualifications

The industry coverage in ICP10 includes printing, graphic media, converting binding and finishing, sacks and bags, mail house, cartons and corrugating and ink manufacture. However, all qualifications have been expanded to include environmental sustainability as a core component. The Certificate III in Printing and Graphic Arts (Printing) includes a range of units of competency for digital printing, including wide format, high speed document production, variable data and colour management.

All qualifications must lead to a work outcome. The flexibility of ICP10 Printing and Graphic Arts Training Package qualifications allows RTOs to vary programs to meet:

- the specific needs of learners and industry clients
- the needs of a locality or a particular industry application of skills.

Competency Standards - Industry Contextualisation

A range of units of competency have been imported into the Printing and Graphic Arts Training Package to provide greater flexibility, choice and transferability of skills within the printing and graphic arts industry and across other industries.

RTOs may contextualise units of competency imported from other Training Packages to reflect outcomes relevant to the printing and graphic arts industry.

For example, when using BSBSUS301A Implement and monitor environmentally sustainable work practices, RTOs should include relevant industry specific examples of environmentally sustainable work practices employed in the industry or industry sector. All legislative and occupational health and safety (OHS) guidelines should also be specific to the printing and graphic arts industry.

Assessment Guidelines

Licensing/Registration Requirements

This section provides information on licensing/registration requirements for ICP10 Printing and Graphic Arts Training Package, with the following important disclaimer.

The developers of this Training Package, and DEEWR, consider that no licensing or registration requirements apply to registered training organisations (RTOs), assessors or candidates with respect to this Training Package. Contact the relevant state or territory department(s) to check if there are any licensing or registration requirements with which you must comply. For further information on this topic contact IBSA at www.ibsa.org.au.

Requirements for Assessors

Requirements for Candidates

Requirements for RTOs

Assessment in a simulated environment

Units of competency in the ICP10 Printing and Graphic Arts Training Package may be assessed in the workplace or in a simulated environment.

The overarching principle to be applied to units suitable for simulation is that simulated environments should only be used in cases where:

- the safety of the candidate and other is at high risk
- there is limited opportunity to present evidence of work-based practice and so waiting for such evidence would either be unreasonable, create unfair delay in the assessment process, or risk de-motivating the candidate
- assessment could result in a breach of confidentiality or privacy.

Under normal circumstances, evidence from a simulated environment should not be the primary source of a candidate's competence. Fully institutionalised training with a work

placement component should satisfy the conditions stipulated below.

Evidence must result from simulated activities that have taken place in a realistic work environment which replicates the conditions and circumstances in which the candidate will usually be expected to work and meets the following:

- work conditions should reflect those found in the workplace and include facilities, equipment and materials used in the workplace for the activities being assessed. Most importantly, they should also reflect the relationships, constraints and pressures of the workplace
- the activity which the candidate must demonstrate in order to be assessed as competent must be realistic and reasonable in terms of scale
- any assessment conducted under simulated conditions must take into consideration what would be typical ambient conditions encountered in the normal workplace as well as reflect the typical workflow involved
- information available to the candidate on the nature of the activity must be consistent with workplace policies and practices.

Workplace supervisors

Instructions for workplace supervisors involved in preparing candidates for on-the-job assessment are available on the IBSA website:

<http://www.ibsa.org.au/training-packages/by-industry/printing-and-graphic-arts/assessment-and-rpl-tools-for-icp05.aspx>

Training and assessment issues for schools

Implementation of ICP10 Printing and Graphic Arts Training Package within the school sector, while encouraged, needs to ensure the following:

- currency of skills and knowledge of those charged with training and assessing students
- access to industry-current equipment, facilities and training resources so that students acquire a realistic view of the realities and conditions within the workplace
- comprehensive coverage of underpinning skills and knowledge as delineated within the units of competency
- appropriateness of learning and assessment experiences to ensure that these are current and realistic.

It is recommended that delivery of qualifications in schools should only include Certificates I and II. The following two qualifications are recommended as most suitable for VET in schools programs:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing).

For more information on VET in Schools, please refer to Appendix A.

Industry Assessment Contextualisation 1

Training and assessment for people with specific needs

Disability Standards for Education were formed under the Disability Discrimination Act 1992 and were introduced in August 2005. They clarify the obligations of education and training providers to ensure that students who have a disability are able to access and participate in education without experiencing discrimination.

The Department of Education, Employment and Workplace Relations (DEEWR) provides further information in the *Disability Standards for Education 2005 Guidance Notes*, accessible via the DEEWR website (www.deewr.gov.au/Schooling/DisabilityStandardsforEducation/Documents/Disability_Standards_Education_Guidance_Notes_pdf.pdf).

Good vocational training and assessment are often about making adjustments to what we do to meet the learning support needs of individuals. The information provided in this section is aimed at assisting teachers/trainers to meet the reasonable adjustment needs of people who have a disability.

What is a disability?

A disability presents some impairment to everyday activity. Some people with a disability do not have any impairments resulting from their disability. For example, a person who has a hearing impairment which is compensated for by a hearing aid may function without any adjustments. While some people with a disability may have an impairment because of the environment, not the disability itself. For example, hearing loss can be accentuated in a room with loud, competing noise and poor acoustics.

A disability may affect or relate to a range of human functions, including mobility, stamina, lifting ability, memory, vision, hearing, speech, comprehension and mood swings. This may be due to accidents, illnesses or birth.

Health conditions can also be acquired through sporting accidents, repetitive or over-use (through regular or sporting activities), or the daily activities of life.

There are many resources available that provide information on how to adjust training and assessment for someone who has a disability; some of these are listed in the contacts section below.

Adjustments in training and assessment

An open mind, common sense and tailoring to individual circumstances will, as often as not, ensure individuals achieve the standards that employers and training providers expect. Reasonable adjustments need only be that – reasonable. It is about identifying what adjustments might reasonably be made and how they may be put into place.

Training and assessment can be made more appropriate and fairer for a person who has a disability through attitude, preparation and application.

Attitude

The attitude of others is often the greatest barrier for people who have a disability. While most people who have a disability will only ever require minor adjustments to ensure learning is positive, some will require additional support. There are many support agencies that can provide advice, however teachers/trainers may need to take additional time to ensure their teaching/training meets the learning support needs of the individual concerned.

Positive language creates an atmosphere of mutual respect, which is essential to learning. For example, using language that identifies learners as people rather than language that identifies them by one of their characteristics conveys that the person is more important than the characteristic, such as the difference between a ‘person who has an intellectual disability’ and an ‘intellectually disabled person’. A person who has an intellectual disability could also be identified by a range of equally important characteristics – height, age, sporting interests, etc. However, the term ‘intellectually disabled person’ refers to the disability as the major, and often only, defining characteristic.

Preparation

It is important to identify any functional issues arising from the nature and extent of a person's disability. This can usually be done by discussing such issues with the individual. In most cases, this consultation will identify reasonable adjustment needs which can be put into place. There are many simple things that teachers/trainers can do to make reasonable adjustments to enable individuals who have a disability to succeed in training and assessment. In some cases, professional support may be required.

Application

Once reasonable adjustments have been implemented it is important to monitor and evaluate what has been done to ensure the best environment for continuous learning because:

- adjustments may only need to be temporary – i.e. mechanisms may only need to be in place during an induction period or due to a temporary disability, in which case evaluation will ensure appropriateness without the need for ongoing monitoring
- adjustments may need reinforcing – when adjustments need to be ongoing, monitoring may reinforce patterns of behaviour in order for them to become 'natural'
- adjustments may need improving – where adjustments are ongoing or substantial, a commitment to continuous improvement is recommended through monitoring.

In most cases an informal discussion with the person concerned may be all that is necessary. However, should adjustments be substantial, or a learner not be acquiring competence at a reasonable rate, a more formal process may be required. This may include:

- performance indicators – training providers, learners and employers should have agreed indicators of performance which can be measured and monitored
- independent support – a third party, independent of the training and/or assessment environment, may need to be involved
- experimentation – if existing adjustments are not proving satisfactory, creative solutions may be needed
- continuing review – formal monitoring is encouraged if adjustments are changed or if substantial adjustments are necessary.

For further information on training and assessment for people with specific needs, the DEEWR website has information about the National Disability Coordination Officer

Programme, which ‘provides information, coordination and referral services for people with a disability interested in or enrolled in post-school education and training’ (www.deewr.gov.au).

Reasonable adjustment

Below are some of the practical things that can be done as part of providing reasonable adjustment to learners with specific support needs to enable them to undertake training and assessment. Clearly, each case will be different and will need to be discussed with the person and in some cases expert help will be needed, at least in the initial stages.

Industry Assessment Contextualisation 2

Assessment for Indigenous organisations

Aboriginal and Torres Strait Islander people have expressed concern about the importance of developing appropriate assessment processes.

There are four main areas of concern:

- diversity
- cultural appropriateness
- community control
- accreditation.

Diversity

The term diversity is used to emphasise the wide range of opinions, aspirations, community circumstances, cultural practices, geographic locations, and social, economic and political conditions that exist throughout Australia and the need to guard against assumptions that all communities are the same.

One approach is to distinguish between remote, rural and urban settings. These settings suggest differences that may be relevant to Aboriginal and Torres Strait Islander organisations, including:

- culture

- language
- history
- social make-up
- geography
- social and economic infrastructure
- economy
- political structure.

These factors suggest that training and assessment, in order to be relevant to the needs of a particular Aboriginal and Torres Strait Islander organisation, should address each situation as unique.

Cultural appropriateness

The term culture is used in a broad sense, it refers to:

- values, social beliefs and customs, such as Aboriginal and Torres Strait Islander law, land, and family and kinship systems
- protocols of behaviour and interaction e.g. cultural authority, gender and kinship
- ways of thinking, including preferred learning styles
- language, both English and Aboriginal English
- lifestyles
- local history
- location, including region and place.

A particularly important aspect of cultural appropriateness is that of learning styles. There is evidence that Aboriginal and Torres Strait Islander people, both traditional and contemporary, approach learning differently from the Western intellectual tradition, which is relevant to effective training and assessment.

It is understood that Aboriginal and Torres Strait Islander people may:

- learn better in groups than individually
- learn better in the surroundings of their community than in an institutional environment
- prefer oral communications to written forms
- learn on the basis of trial and error in the presence of an experienced person in preference to concept building approaches
- have a highly-developed sense of spatial relations by which they learn; hence stories, maps and pictures would be preferable to oral explanations.

To be effective, it is necessary that training and assessment recognises, adopts and practises appropriate delivery and assessment approaches.

Trainers and assessors who are not Aboriginal or Torres Strait Islanders need information on aspects of Aboriginal and Torres Strait Islander culture. They need to work closely with Aboriginal and Torres Strait Islander people to adopt practices that reflect Aboriginal and Torres Strait Islander approaches. The community should be asked to identify experts to provide information and to assist with assessment of relevant protocols, for example, where required.

There are a number of ways an RTO can establish and maintain culturally appropriate training and assessment practices, including:

- ensuring a high proportion of Aboriginal and Torres Strait Islander participation in all aspects of planning, development, delivery and evaluation
- establishing and maintaining a collaborative relationship with local Aboriginal and Torres Strait Islander communities
- as a mainstream (non-Indigenous) RTO, establishing auspice relationships with Aboriginal and Torres Strait Islander organisations and individuals, including direct and indirect involvement of persons identified as appropriate by the local community
- ensuring ongoing training of non-Aboriginal and Torres Strait Islander staff at all levels of the RTO, delivered by Aboriginal and Torres Strait Islander personnel.

Community control

The term community control is synonymous with such things as self-determination and self-management, and underpins most community aspirations. It is of fundamental concern to people who see themselves as having been dispossessed by colonisation.

The essence of control is control of decision-making. In order to be able to do this, people need all relevant information, relevant competencies, and recognition of their own structures and processes.

Among other things, Aboriginal and Torres Strait Islander people seek control over their training. It is necessary, therefore, that they participate in meaningful ways in all stages of planning, development, delivery and evaluation. One way to achieve this is for communities to have control of the contract for training initiatives.

It is important that training providers and assessors respect and conform to the practice of community control which underpins this field within the ICP10 Printing and Graphic Arts Training Package.

Accreditation

Aboriginal and Torres Strait Islander people have said for a long time that their involvement in training has not been formally recognised and that many of the skills they use in managing their organisations and delivering services to their communities have not been valued.

The first issue may have arisen because much of the training that has been delivered to communities has been customised to particular situations, has not been assessed on an individual basis if at all, and has been delivered by unregistered personnel. Secondly, until this time, recognition of current competencies (RCC) has been under-utilised.

Individuals may demonstrate competence in complete units of competency through formal training, informal training or the recognition of current competencies and skills, resulting in qualifications or statements of attainment being awarded.

In the community group setting, an important feature of likely relevance for assessment is that participants may vary with respect to previous education and training experience, which may result in diverse literacy and numeracy issues. However, literacy and numeracy skills are not a barrier to sophisticated thought, and care must be taken not to use assessment strategies that rely on a person having numeracy and literacy skills that are not intrinsically required by the unit of competency being assessed.

A flexible approach to assessment will be required by RTOs in order to meet the requirements of Aboriginal and Torres Strait Islander organisations and individuals under this domain within the ICP10 Printing and Graphic Arts Training Package.

Assessment in Aboriginal and Torres Strait Islander communities

The guiding principles that underpin assessment include:

- assessment should be transparent, i.e. clearly seen and understood by the candidate and others
- assessment should empower the candidate on the basis of consent, self-assessment and responsibility for the process
- members or prospective members of community management committees should

have opportunities to demonstrate their competencies and skills

- activities undertaken by the candidate in a community management role may be used as the context for assessment where possible (known as on-the-job assessment or workplace assessment); there may also be opportunities to include evidence from other relevant situations
- assessment should involve designated community experts working in collaboration with RTO assessors in order to provide appropriate recognition of cultural and community skills and knowledge
- assessments must provide constructive feedback to candidates and support for further competency development
- assessments must provide a statement of attainment or qualification, listing the units of competency achieved
- records of candidate achievement maintained by the RTO must include the statement of attainment, listing the units of competency or qualifications achieved as required by the AQTF 2007
- a record of demonstrated competencies will assist in role clarification and performance appraisals in the workplace.

Given the importance of the assessment to the candidate and community management committees, the assessor must make every effort to ensure that assessment is conducted with the highest level of professionalism and integrity.

Units of competency with cultural content, including the following of local protocols, will require the assessor to have knowledge of these cultural matters. As these matters are often governed by local rules regarding access to such knowledge, only those people with the knowledge can genuinely assess these aspects of the competency or provide guidance on their assessment.

Discussion must take place with the community and agreement must be reached on how these matters are assessed. For non-Aboriginal and Torres Strait Islander RTOs, this will usually mean the use of auspice arrangements with appropriate people or knowledge experts, identified by the community.

It should be noted that for Aboriginal and Torres Strait Islander people being assessed in aspects of competency, they will almost invariably have been attained through life experience. This must also be taken into account in the assessment procedures relating to cultural matters.

Assessors may exercise limited discretion in response to organisational or individual requirements, but any changes must not alter the meaning of the unit of competency or the elements of competency.

Candidates must be informed of the right to access grievance procedures.

Employability Skills in the industry context

ICP10 Printing and Graphic Arts Training Package seeks to ensure that industry-endorsed employability skills are explicitly embedded in units of competency. The application of each skill and the level of detail included in each part of the unit will vary according to industry requirements and the nature of the unit of competency.

Employability skills are both explicit and embedded within units of competency. This means that employability skills are:

- embedded in units of competency as part of the other performance requirements that make up the competency as a whole
- explicitly described within units of competency to enable Training Package users to identify accurately the performance requirements of each unit with regard to employability skills.

Contacts

This section provides a list of useful contacts and resources to assist trainers and assessors in planning, designing, conducting and reviewing their programs for this Training Package.

Innovation and Business Skills Australia
Level 11

176 Wellington Parade

East Melbourne Vic 3002

Tel: 03 9815 7000

Fax: 03 9815 7001

Web: www.ibsa.org.au

Email: reception@ibsa.org.au

Technical and Vocational Education and Training (TVET) Australia Limited

Level 21, 390 St Kilda Road, Melbourne VIC 3150

PO Box 12211, A'Beckett Street Post Office

Melbourne VICTORIA 8006

Tel: 03 9832 8100

Fax: 03 9832 8198

Email: sales@tvetaustralia.com.au

Web: www.tvetaustralia.com.au

For information on the TAA04 Training and Assessment Training Package contact:

Innovation and Business Skills Australia

Level 11

176 Wellington Parade

East Melbourne Vic 3002

Tel: 03 9815 7000

Fax: 03 9815 7001

Web: www.ibsa.org.au

Email: reception@ibsa.org.au

General resources

Refer to <http://antapubs.dest.gov.au/publications/search.asp> to locate the following publications.

AQF Implementation Handbook, third edition. Australian Qualifications Framework Advisory Board, 2002, www.aqf.edu.au.

Australian Quality Training Framework 2007 (AQTF 2007) - for information and resources go to www.training.com.au/aqtf2007.

AQTF 2007 Essential Standards for Registration. Training organisations must meet these standards in order to deliver and assess nationally recognised training and issue nationally recognised qualifications. They include three standards, a requirement for registered training organisations to gather information on their performance against three quality indicators, and nine conditions of registration.

AQTF 2007 User's Guide to the Essential Standards for Registration. A Users' Guide

for training organisations who must meet these standards in order to deliver and assess nationally recognised training and issue nationally recognised qualifications.

AQTF 2007 Standards for Accredited Courses. State and territory accrediting bodies are responsible for accrediting courses. This standard provides a national operating framework and template for the accreditation of courses.

TAA04 Training and Assessment Training Package. This is available from Innovation and Business Skills Australia (IBSA), the Innovation and Business Industry Skills Council, and can be viewed and components downloaded, from the National Training Information Service (NTIS).

National Training Information Service, an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses (www.ntis.gov.au).

Training Package Development Handbook (DEST, August 2007). Can be downloaded from www.deewr.gov.au.

Assessment resources

Training Package Assessment Guides – a range of resources to assist RTOs in developing Training Package assessment materials (originally developed by ANTA with funding from the Department of Education, Training and Youth Affairs) and made up of 10 separate titles, as described at the publications page of www.deewr.gov.au. Go to www.resourcegenerator.gov.au.

Printed and/or CD versions of the guides can be purchased from Technical and Vocational Education and Training (TVET) Australia Limited. The resource includes the following guides:

- Training Package Assessment Materials Kit
- Assessing Competencies in Higher Qualifications
- Recognition Resource
- Kit to Support Assessor Training
- Candidates Kit: Guide to Assessment in New Apprenticeships
- Assessment Approaches for Small Workplaces
- Assessment Using Partnership Arrangements
- Strategies for ensuring Consistency in Assessment
- Networking for Assessors

- Quality Assurance Guide for Assessment.

An additional guide 'Delivery and Assessment Strategies' has been developed to complement these resources.

Assessment tool design and conducting assessment

VETASSESS and Western Australian Department of Training and Employment 2000, *Designing Tests – Guidelines for designing knowledge based tests for Training Packages*.

Vocational Education and Assessment Centre 1997, *Designing Workplace Assessment Tools*, A self-directed learning program, NSW TAFE.

Manufacturing Learning Australia 2000, *Assessment Solutions*, Australian Training Products, Melbourne.

Rumsey, David 1994, *Assessment practical guide*, Australian Government Publishing Service, Canberra.

Assessor training

Australian Committee on Training Curriculum (ACTRAC) 1994, *Assessor training program – learning materials*, Australian Training Products, Melbourne.

Australian National Training Authority, *A Guide for Professional Development*, ANTA, Brisbane.

Australian Training Products Ltd *Assessment and Workplace Training, Training Package - Toolbox*, ATPL Melbourne (available from TVET).

Green, M, et al. 1997, *Key competencies professional development package*, Department for Education and Children's Services, South Australia.

Victorian TAFE Association 2000, *The professional development CD: A learning tool*, VTA, Melbourne.

Assessment system design and management

Office of Training and Further Education 1998, *Demonstrating best practice in VET project - assessment systems and processes*, OTFE Victoria (now 'Skills Victoria').

Toop, L., Gibb, J. & Worsnop, P. *Assessment system designs*, Australian Government Publishing Service, Canberra.

Support for employment, training and assessment of people with specific needs

Association of Competitive Employment (ACE) National Network

ACE represents agencies who deliver open employment services for people who have a disability.

PO Box 5198

Alphington VIC 3078

Tel: 03 9411 4033

Fax: 03 9411 4053

Email: info@acenational.org.au

Website: www.acenational.org.au

Australian Disability Clearinghouse on Education and Training (ADCET)

ADECT provides information about inclusive post-secondary education and training teaching, learning and assessment strategies and support services for people who have a disability.

ADCET

Locked Bag 1335

Launceston TAS 7250

Tel: 03 6324 3787

Fax: 03 6324 3788

Website: www.adcet.edu.au

Australian Association of the Deaf

PO Box 1083

Stafford QLD 4053

Tel: 07 3357 8266

Fax: 07 3357 8377

TTY: 07 3357 8277

Email: aad@aad.org.au

Website: www.aad.org.au

Australian Federation of Deaf Societies

PO Box 1060

Parramatta NSW 2124

Tel: 02 8833 3615

Fax: 02 9893 8333

TTY: 02 9893 8858

Australian Federation of Disability Organisations

247 Flinders Lane

Melbourne VIC 3000

Tel: 03 9662 3324

Fax: 03 9662 3325

Email: office@afdo.org.au

Website: www.afdo.org.au

Blind Citizens Australia

PO Box 24

Sunshine VIC 3020

Tel: 03 9372 6400

Fax: 03 9372 6466

TTY: 03 9372 9275

Freecall: 1800 033 660

Email: bca@bca.org.au

Website: www.bca.org.au

Brain Injury Australia

PO Box 82

Mawson ACT 2607

Tel: 02 6290 2253

Fax: 02 6290 2252

Email: bianational@apex.net.au

Carers Australia

PO Box 73

Deakin West ACT 2600

Tel: 02 6122 9900

Fax: 02 6122 9999

Email: caa@carersaustralia.com.au

Website: www.carersaustralia.com.au

Commonwealth Disability Services Program Contacts

www.facs.gov.au or by telephone:

ACT: 02 6274 5206

New South Wales: 02 263 3818

Northern Territory: 08 8946 3555

Queensland: 07 3360 2800

South Australia: 08 8236 6111

Tasmania: 03 6221 1411

Victoria: 03 9285 8523

Western Australia: 08 9346 5311

Deafness Forum of Australia

The forum coordinates the annual National Hearing Awareness Week, held in the last complete week of August.

218 Northbourne Avenue

Braddon ACT 2612

Tel: 02 6262 7808

Fax: 02 6262 7810

TTY: 02 6262 7809

Email: info@deafnessforum.org.au

Website: www.deafnessforum.org.au

Website: www.hearingawareness.org.au

Mental Health Foundation Australia

270 Church Street

Richmond VIC 3121

Tel: 03 9427 0407

Fax: 03 9427 1294

Email: admin@mhfa.org.au

Website: www.mhfa.org.au

National Council on Intellectual Disability

PO Box 771

Mawson ACT 2607

Tel: 02 6296 4400

Fax: 02 6296 4488

Email: ncid@dice.org.au

Website: www.dice.org.au

National Ethnic Disability Alliance

PO Box 381

Harris Park NSW 2150

Tel: 02 9687 8933

Fax: 02 9635 5355

TTY: 02 9687 6325

Website: www.neda.org.au

Physical Disability Council of Australia Ltd

PO Box 77

Northgate QLD 4013

Tel: 07 3267 1057

Fax: 07 3267 1733

Email: pdca@pdca.org.au

Website: www.pdca.org.au

SANE Australia

PO Box 226

South Melbourne VIC 3205

Tel: 03 9682 5933

Fax: 03 9682 5944

Freecall: 1800 18 SANE

Email: info@sane.org

Email: helpline@sane.org

Website: www.sane.org

SAI Global

Standards Australia publications distributor.

Tel: 131 242

Fax: 1300 65 49 49

Email: sales@sai-global.com

Website: www.saiglobal.com

Standards Australia

Standards Australia develops standards and codes for building access.

Standards Australia Limited

Level 10, The Exchange Centre

20 Bridge Street

Sydney NSW 2000

Tel: 1800 035 822

Email: mail@standards.org.au

Women with Disabilities Australia WWDA

PO Box 605

Rosny Park TAS 7018

Tel: 03 6244 8288

Fax: 03 6244 8255

Email: wwda@ozemail.com.au

Website: www.wwda.org.au

Appendices

Appendices

Appendix A: VET in Schools

What is VET in schools?

Vocational education and training in schools (VETiS) provides for nationally recognised vocational education and training undertaken as part of a senior secondary certificate and based on industry standards.

Successful completion of a VETiS program enables students to gain a nationally-recognised Australian Qualifications Framework (AQF) qualification, usually at the same time as their school-based qualification.

How are VET in schools programs structured?

VETiS programs are packaged and delivered in a variety of ways across Australia. There are three main types of delivery arrangements for VETiS programs:

- schools can be a registered training organisation (RTO) in their own right
- school sectoral bodies (such as Boards of Studies or regional offices) can hold RTO status on behalf of a group of schools
- schools can work together in a partnership with an RTO.

Appropriate qualifications for VET in schools

IBSA encourages links between schools, businesses and the community, and strongly supports young people combining schooling with VET and workplace learning.

It is essential that all VET qualifications gained through a VETiS program are consistent with the outcomes detailed in the Training Package.

The following two qualifications are recommended as most suitable for VETiS programs:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing).

The AQTF 2007 Standards for Registered Training Organisations set out minimum competency standards for staff responsible for the delivery of training and the conducting of assessments; and they ensure that VET specialists have skills and competencies consistent with Training Package requirements. All schools using their own teachers for VET delivery must also be aware of the AQTF 2007 requirement for assessors to hold relevant vocational competencies, at least equal to that being delivered and assessed, in addition to teaching and assessment competence.

Schools are encouraged to establish partnerships with industry and effective work placement arrangements to maximise the quality of outcomes for students and industry alike. Recognition of competence gained through voluntary, part-time or vacation work not directly related to the industry focus of the qualification should also be considered.

Work placement

Work placement usually involves students spending an extended period of time in a workplace gaining experience and skills, and undergoing an assessment process related to the attainment of a qualification in a specific occupational field.

An essential feature of school-industry programs is that they involve students spending some time learning in a workplace. In recent years an increasing number of effective structured workplace learning programs have made significant progress towards greater workplace integrity for those industry training programs that are delivered predominantly off-the-job. The implementation of Training Packages means that structured workplace learning must be a consideration for all RTOs, not only schools, in the delivery of training programs.

Principles for quality workplace learning

The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) endorsed the Principles for Quality Workplace Learning for school students engaged in VET programs throughout Australia. All states and territories apply the principles to their work placement programs, although the nature and extent of work placement programs vary across states and territories.

The broad MCEETYA principles are documented below.

Quality workplace learning is integrated into a program

- it operates within a framework which provides the opportunity for all students to access it, though not all students may choose to do so; and
- it operates within the context of vocational courses, which are recognised by industry, are responsive to industry needs and forms part of a student's exit credential.

Quality workplace learning is structured

- it has a clearly articulated and documented purpose;
- there are clearly identified and documented learning outcomes for students within accredited programs, which are linked to post-school qualifications;
- they are of sufficient duration and depth to enable students to acquire a reasonable understanding of the enterprise/industry to demonstrate competence according to industry standards of at least level 1 of the AQF;
- there is a matching between the students' skills and interests and the work placements; and
- students, teachers and employers are thoroughly prepared beforehand so that the expectations and outcomes of the work placement are clearly understood by all parties.

Quality workplace learning is monitored

- the learning is coordinated by personnel with appropriate expertise and adequate resources; and
- support should be made available to students and employers throughout the course of the work placement.

Quality workplace learning is regulated

There are clearly stated procedures designed to ensure that:

- students are protected from moral and physical danger;
- students work in a non-discriminatory and harassment-free environment;
- students receive appropriate training and instruction in occupational health and safety;
- students are not exploited by being continuously engaged in a production or service capacity or used to substitute for the employment of employees and payment of appropriate wages; and

- students are required to understand the roles and responsibilities of employees in the workplace and are expected to follow the directions of the workplace supervisors and other employees.

Quality workplace learning is assessed

- the assessment, according to industry standards, is of students' competencies achieved in the workplace which contributes to the overall assessment of the program; and
- there are mechanisms for the recording and reporting of students' competencies.

There is a strong correlation between these MCEETYA quality principles and the OECD characteristics of high quality learning programs detailed below.

The major 14-country study entitled **From Initial Education to Working Life: Making Transitions Work** by the OECD identified 10 characteristics of high quality workplace learning programs. These are:

- Work placements that are long enough for real learning to take place
- Systematic analysis of the training capacity of the workplace, to see what it can realistically supply
- A formal training plan, setting out what has to be taught and learned, and clarifying the work-based and school-based parts of a student's program
- Employer involvement in student selection for work placements
- The presence of a trained program coordinator, able to liaise between the school and the firm and troubleshoot when problems occur
- The use of qualified, highly competent workers as workplace trainers or mentors
- Regular face-to-face contact between the coordinators and employers and in-firm supervisors
- Monitoring of the students on the job by the program coordinator
- The evaluation of student performance against the training plan at the end of the placement, with the evaluation carried out by the job supervisor and coordinator jointly
- Deliberate efforts by schools to relate what has been learned at work to students' school-based learning

Effective work placement is characterised by:

- activities that complement off-the-job learning programs
- clearly articulated and documented purpose

- development of appropriate attitudes towards work
- development of competence in designated industry skills and employability skills
- facility for on-the-job practice of skills acquired in a classroom
- flexibility
- learning in a range of behaviours appropriate to the relevant industry
- opportunities for work-based assessment
- regular and frequent use of current technology and equipment
- relevance to the VET qualification being undertaken
- recognition of student readiness
- support of industry partners.

Beyond the above, a number of other provisions are necessary for a successful work placement program. The credibility of work placements and any resultant recognition of competence requires a degree of 'seriousness' if the outcomes are to be valued by individuals and industry clients of the VET system.

It is suggested that stakeholders involved in the planning and management of work placements carefully consider and implement the following general principles:

- That the RTO assume responsibility for finding placements and validating the arrangements
- That the workplace has the appropriate resources, tools and staff to conduct the placement, with compliance with any legislative requirements
- That there be regular validation by the RTO that the student and assessor, where relevant, are operating according to RTO AQTF 2007 standards
- That a student on work placement must be covered by injury insurance
- That there is a formal contract setting out each party's responsibilities and obligations
- That, where possible, the workplace has on site a qualified workplace trainer and assessor in 'direct line' control of the student (to avoid training and assessment by 'proxy')
- That if the placement is for assessment only then there must be clearly documented assessment tasks specifically related to the unit being assessed and evidence retained to support achievement of competence (for both best practice recording purposes and audit/appeal)
- That if the placement also includes training, then any 'academic pass' cannot be bestowed prior to the placement as clearly all of the learning components have not been undertaken nor can they be assessed in advance if they have not been learned
- That the training be directly related to achievement of competence while recognising the likely acquisition of other skills and knowledge
- That where assessment occurs it be clearly related to a unit of competency relevant to the work placement
- That where more than one performance criterion (possibly over more than one unit)

is being assessed there must be a clearly linked and documented relationship between the assessment and the performance criterion

- That the qualifications level be appropriate in context, i.e. if it is advanced programming there must be an advanced programming task observed and assessed
- That the actual variables of the performance criterion be documented for audit purposes and for verification of appropriateness of the range of activities in the work placement

In some state and territory school systems, part-time student work in an appropriate workplace may be used to fulfil work placement requirements and virtual or simulated work placements may also be legitimate.

Appendices

Appendix B: Australian Apprenticeships

All qualifications within ICP10 Printing and Graphic Arts Training Package can be achieved by a variety of pathways and delivery methods – either on-the-job or through a combination of on- and off-the-job training and recognition processes.

Qualifications at AQF levels II to IV particularly facilitate Australian Apprenticeship pathways. Industry recommends that the following qualifications are achieved through contracted training as Apprenticeships:

- ICP30210 Certificate III in Printing and Graphic Arts (Graphic Pre-press)
- ICP30510 Certificate III in Printing and Graphic Arts (Printing)
- ICP30610 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing).

ICP20110 Certificate II in Printing and Graphic Arts (General)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who perform a range of mainly routine tasks in the printing and graphic arts industry. They work under direct supervision, and use limited practical skills and fundamental operational knowledge in a defined context. It is a preparatory qualification that can be used as a pathway into a range of specialist Certificate III qualifications within the printing and graphic arts industry.

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter:

- ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production)
- ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press)
- ICP30312 Certificate III in Printing and Graphic Arts (Multimedia)
- ICP30412 Certificate III in Printing and Graphic Arts (Digital Printing)
- ICP30512 Certificate III in Printing and Graphic Arts (Printing)
- ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing)
- ICP30812 Certificate III in Printing and Graphic Arts (Sacks and Bags)
- ICP30912 Certificate III in Printing and Graphic Arts (Cartons and Corrugating)
- ICP31012 Certificate III in Printing and Graphic Arts (Mail House)

- ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture).
-

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • completing production records accurately • reporting problems and machine faults to supervisors
Teamwork	<ul style="list-style-type: none"> • operating production processes with fellow workers and communicating with workers involved in prior and subsequent processes
Problem solving	<ul style="list-style-type: none"> • conducting a sample run of a folding machine, inspecting the product and adjusting the machine to meet production requirements
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating production difficulties and taking preventative action • contributing to occupational health and safety (OHS) management and raising issues with designated personnel
Planning and organising	<ul style="list-style-type: none"> • collating details of job and machine specifications and printing processes to ensure efficient production
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • operating machines, such as folders and lithographic printers • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 15 units

4 core units, plus

11 elective units.

At least **1 elective unit** must be selected from at least 5 of the 6 elective groups.

Up to **3 of the elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any

other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Elective Units

Group A Elective Units - Converting, Binding and Finishing

ICPCF202C Handline mail

ICPCF203C Collate and insert mail manually

ICPCF204C Operate addressing machine

ICPCF208C Set up and operate a cheque mailer machine

ICPCF209C Set up and operate in-line mail machine

ICPCF220C Produce basic converted or finished product

ICPCF221C Set up and produce basic guillotined product

ICPCF222C Set up and operate in-line cutter

ICPCF223C Set up machine for cutting (trimming)

ICPCF224C Produce cut (trimmed) product

ICPCF225C Set up machine for basic flat-bed die cutting or embossing

ICPCF226C Produce basic flat-bed die cut or embossed product

ICPCF227C Set up machine for basic rotary die cutting or embossing

ICPCF228C Produce basic rotary die cut or embossed product

ICPCF231C Set up machine for basic flat-bed cutting

ICPCF232C Produce basic flat-bed cut product

ICPCF235C Set up machine for basic rotary cutting

ICPCF236C Produce basic rotary cut product

ICPCF241C Set up machine for basic single or continuous folding

ICPCF242C Produce basic single or continuous folded product

ICPCF243C Set up machine for basic collating or inserting (sheet/section)

- ICPCF244C Produce basic collated or inserted (sheet/section) product
- ICPCF245C Set up and produce hand-collated or -inserted product
- ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening
- ICPCF262C Produce basic adhesive, mechanical or thermal fastened product
- ICPCF263C Set up and produce hand-fastened product
- ICPCF281C Set up machine for basic laminating
- ICPCF282C Produce basic laminated product
- ICPCF294C Set up profile cutting for envelope manufacture
- ICPCF297C Clean sack and bag machines
- ICPCF298C Run and monitor sack and bag machines
- ICPCF2101C Set up and run machine for sewing
- ICPCF2104C Set up single-faced web
- ICPCF2106C Set up double-faced web

Group B Elective Units - Multimedia

- ICPMM263C Access and use the Internet
- ICPMM296C Create and test a CD-ROM/DVD

Group C Elective Units - Pre-press

- ICPPP211C Develop a basic design concept
- ICPPP221C Select and apply type
- ICPPP223C Photograph a line image
- ICPPP224C Produce pages using a page layout application
- ICPPP225C Produce graphics using a graphics application
- ICPPP231C Manually combine spot colour and basic four-colour images
- ICPPP232C Electronically combine and assemble data
- ICPPP252C Output images
- ICPPP260C Proof images
- ICPPP266C Produce relief plates
- ICPPP267C Produce offset lithographic plates
- ICPPP268C Make photopolymer plates (flexographic)
- ICPPP269C Produce photopolymer plates for pad printing
- ICPPP272C Produce gravure cylinders manually
- ICPPP281C Design basic carton
- ICPPP283C Prepare artwork for screen printing

ICPPP284B Produce PDF files for online or screen display

ICPPP286A Scan images for reproduction

Group D Elective Units - Printing

ICPPR211C Mount and proof flexographic plates for basic printing

ICPPR214C Produce basic flexographic printed product

ICPPR222C Produce basic gravure printed product

ICPPR232C Produce basic lithographic printed product

ICPPR242C Produce basic pad printed product

ICPPR261C Set up for foil stamping

ICPPR262C Produce foil stamped product

ICPPR271C Set up for basic coating

ICPPR272C Produce basic coated product

ICPPR288A Produce basic relief printed product

ICPPR384A Set up and produce basic digital print

ICPPR282C Produce and manage basic digital print

Group E Elective Units - Screen Printing

ICPSP211C Reclaim screen automatically

ICPSP215C Prepare screen

ICPSP221C Prepare substrate

ICPSP222C Prepare and cut screen print substrate

ICPSP233C Manually prepare direct emulsion stencil

ICPSP235C Prepare stencil using photographic indirect method

ICPSP270C Manually prepare and produce screen prints

ICPSP271C Manually produce basic screen prints

ICPSP273C Semi-automatically produce basic screen prints

ICPSP275C Automatically produce basic screen prints

ICPSP281C Finish screen print products

ICPSP282A Prepare film for basic screen printing

ICPSP383A Prepare film for complex screen printing

Group F Elective Units - Support

ICPSU201C Prepare, load and unload reels and cores on and off machine

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

- ICPSU207C Prepare machine for operation (basic)
- ICPSU208C Operate and monitor machines (basic)
- ICPSU211C Prepare ink and additives
- ICPSU212C Prepare coatings and adhesives
- ICPSU221C Pack and dispatch product
- ICPSU222C Pack and dispatch solid waste
- ICPSU224C Perform basic machine maintenance
- ICPSU225C Perform small machine maintenance
- ICPSU235C Lift loads mechanically
- ICPSU236C Shift loads mechanically
- ICPSU241C Undertake warehouse or stores materials processing
- ICPSU243C Reconcile process outputs
- ICPSU261C Follow OHS practices and identify environmental hazards
- ICPSU263C Perform basic industry calculations
- ICPSU271C Provide basic instruction for a task
- ICPSU280C Enter data into electronic system
- ICPSU281C Use computer systems

ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who assist in the production of professionally designed and presented documents, using desktop publishing software. They will generally work under direct supervision and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Assistant desktop publisher
Pre-press worker

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter:

- ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production)
- ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press)
- ICP30312 Certificate III in Printing and Graphic Arts (Multimedia)
- ICP30512 Certificate III in Printing and Graphic Arts (Printing)
- ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing).
-

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Prerequisite Units

Code and title	Prerequisite units required
ICPPP321C Produce a typographic image	ICPPP221C Select and apply type

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • completing production records accurately • providing feedback to colleagues about printing and in-line processes and specifications • reporting problems and machine faults to supervisors
Teamwork	<ul style="list-style-type: none"> • operating production processes with fellow workers and communicating with workers involved in prior and subsequent processes
Problem solving	<ul style="list-style-type: none"> • evaluating and proofing own work
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating production difficulties and taking preventative action • contributing to occupational health and safety (OHS) management and raising issues with designated person
Planning and organising	<ul style="list-style-type: none"> • collating details of job and machine specifications and printing processes to ensure efficient production • setting preferences, document summaries and search index options according to the requirements of the brief
Self-management	<ul style="list-style-type: none"> • completing production records accurately • producing work within deadlines
Learning	<ul style="list-style-type: none"> • identifying lessons learnt from projects to apply to future projects
Technology	<ul style="list-style-type: none"> • using desktop publishing software and equipment, word processing packages, spreadsheets and project management software and tools

Packaging Rules

Total number of units = 15 units

4 core units, plus

5 elective units from Group A, plus

6 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units

listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **2 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPMM263C Access and use the Internet

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application

ICPPP225C Produce graphics using a graphics application

ICPPP252C Output images

Group B Elective Units

ICAWEB429A Create a markup language document to specification

ICPMM321C Capture a digital image

ICPMM322C Edit a digital image

ICPPP232C Electronically combine and assemble data

ICPPP260C Proof images

ICPPP286A Scan images for reproduction

ICPPP284B Produce PDF files for online or screen display

ICPPP321C Produce a typographic image

ICPPP322C Digitise images for reproduction

ICPPR384A	Set up and produce basic digital print
ICPSU261C	Follow OHS practices and identify environmental hazards
MSACMC210A	Manage the impact of change on own work
MSACMS200A	Apply competitive manufacturing practices
MSACMS201A	Sustain process improvements
MSACMT230A	Apply cost factors to work practices
MSACMT240A	Apply 5S procedures in a manufacturing environment
MSACMT270A	Use sustainable energy practices
MSACMT271A	Use sustainable environmental practices
MSACMT280A	Undertake root cause analysis

ICP20310 Certificate II in Printing and Graphic Arts (Digital Printing)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who assist with digital production workflow and operate and monitor digital printing equipment and machinery. They will generally work under direct supervision, and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

- Digital print operator

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30410 Certificate III in Printing and Graphic Arts (Digital Printing)
- ICP30510 Certificate III in Printing and Graphic Arts (Printing).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • conveying information between production workers and stores people • interpreting job sheets and instructions correctly • reporting problems and faults to supervisors
Teamwork	<ul style="list-style-type: none"> • finalising document finishing requirements with co-workers • working with others to ensure that the correct consumables and materials are available for production
Problem solving	<ul style="list-style-type: none"> • calculating run and completion times for digital print jobs • monitoring production quality and making minor adjustments to processes • troubleshooting operation of a digital print system • visually identifying faulty materials and removing them
Initiative and enterprise	<ul style="list-style-type: none"> • identifying opportunities to enhance the quality of services and products
Planning and organising	<ul style="list-style-type: none"> • checking availability of job related components • organising appropriate equipment for transferring materials • selecting tools and applying them to measurement tasks
Self-management	<ul style="list-style-type: none"> • selecting and using personal protective equipment
Learning	<ul style="list-style-type: none"> • seeking assistance from supervisors to address customer needs • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using and performing basic maintenance on printing machinery such as fastening machines • using information technology, such as computer hardware and software to access data from files • using measuring tools, such as spectrophotometers and densitometers

Packaging Rules

Total number of units = 15

4 core units *plus*

4 elective units from Group A *plus*

7 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

5 elective units must be selected from the Group B elective units listed below.

Up to **2 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBCUS301B Deliver and monitor a service to customers

ICPPR384A Set up and produce basic digital print

ICPSU203C Prepare and maintain the work area

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

Group B Elective Units

ICPCF221C Set up and produce basic guillotined product

ICPCF241C Set up machine for basic single or continuous folding

ICPCF242C Produce basic single or continuous folded product

ICPCF243C Set up machine for basic collating or inserting (sheet/section)

ICPCF244C Produce basic collated or inserted (sheet/section) product

ICPCF245C Set up and produce hand collated or inserted product

ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening

ICPCF262C Produce basic adhesive mechanical or thermal fastened product

ICPCF263C Set up and produce hand-fastened product

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application
ICPPP252C Output images
ICPPP286A Scan images for reproduction
ICPPP385C Operate a database for digital printing
ICPPP397A Transfer digital files
ICPPR282C Produce and manage basic digital print
ICPPR283A Use digital media consumables
ICPPR284A Introduction to colour management
ICPPR285A Use digital workflow
ICPPR286A Finish a digital product
ICPPR287A Use digital processes
ICPSU207C Prepare machine for operation (basic)
ICPSU211C Prepare ink and additives
ICPSU221C Pack and dispatch product
ICPSU225C Perform small machine maintenance
ICPSU224C Perform basic machine maintenance
ICPSU261C Follow OHS practices and identify environmental hazards
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT270A Use sustainable energy practices
MSACMT280A Undertake root cause analysis

ICP20410 Certificate II in Printing and Graphic Arts (Print Production Support)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who provide production support across a range of sectors in the printing and graphic arts industry. They will generally work under direct supervision and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Print offsider

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter:

- ICP30510 Certificate III in Printing and Graphic Arts (Printing)
- ICP30610 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP20410 Certificate II in Printing and Graphic Arts (Print Production Support)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • completing documentation for the dispatch of product • reading and interpreting job requirements from documents or production control systems • obtaining client approval for production to proceed after a proof is produced
Teamwork	<ul style="list-style-type: none"> • liaising with printers, transport suppliers and customers to ensure product arrives undamaged and on time • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • conducting a proof run for coating products and adjusting settings to ensure production specifications are attained • identifying and rectifying defects, irregularities and discrepancies when packing and dispatching products
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating production difficulties and taking preventative action • recommending improvements to quick changeover procedures
Planning and organising	<ul style="list-style-type: none"> • preparing for changeover of product by analysing timing, tools needed and availability of materials • selecting and preparing a suitable area for packaging finished product
Self-management	<ul style="list-style-type: none"> • making adjustments to machines according to specified procedures and consistent with own skill level • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • operating production machines and load shifting equipment • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Packaging Rules

Total number of units = 15 units

4 core units, plus

6 elective units from Group A, plus

5 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

2 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU207C Prepare machine for operation (basic)

ICPSU208C Operate and monitor machines (basic)

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

ICPSU357C Apply quick changeover procedures

Packaging Rules

* Both of these units can be completed in the one qualification, if the enterprise required both.

Group B Elective Units

ICPCF222C	Set up and operate in-line cutter
ICPCF242C	Produce basic single or continuous folded product
ICPCF244C	Produce basic collated or inserted (sheet/section) product
ICPCF262C	Produce basic adhesive, mechanical or thermal fastened product
ICPCF263C	Set up and produce hand-fastened product
ICPCF281C	Set up machine for basic laminating
ICPCF282C	Produce basic laminated product
ICPCF341C	Set up machine for complex sequenced or multiple folding
ICPPR271C	Set up for basic coating
ICPPR272C	Produce basic coated product
ICPSU221C	Pack and dispatch product
ICPSU222C	Pack and dispatch solid waste
ICPSU224C	Perform basic machine maintenance
ICPSU225C	Perform small machine maintenance
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing
ICPSU261C	Follow OHS practices and identify environmental hazards
ICPSU280C	Enter data into electronic system
ICPSU323C	Dispose of waste
ICPSU342C	Undertake inventory procedures
MSACMC210A	Manage the impact of change on own work
MSACMS200A	Apply competitive manufacturing practices
MSACMS201A	Sustain process improvements
MSACMT230A	Apply cost factors to work practices
MSACMT240A	Apply 5S procedures in a manufacturing environment
MSACMT270A	Use sustainable energy practices
MSACMT271A	Use sustainable environmental practices
MSACMT280A	Undertake root cause analysis

ICP20510 Certificate II in Printing and Graphic Arts (Screen Printing)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to an individual working in the screen printing sector of the printing and graphic arts industry. They assist in the operation of power driven or hand-operated screen printing machines to create visual images. They will generally work under direct supervision and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Attendant screen printer

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30610 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP20510 Certificate II in Printing and Graphic Arts (Screen Printing)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> reading and interpreting job requirements using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> operating production processes in association with fellow workers according to the planned daily schedule
Problem solving	<ul style="list-style-type: none"> proofing and inspecting quality of own work and adjusting the printing machinery to ensure the product meets job specifications monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> making recommendations on possible solutions when planning printing operations monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> accessing data about machine capabilities, production processes and customer needs and using them in the planning process selecting inks, additives and screens when planning for modified or new printing operations
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> demonstrating knowledge of company services, equipment capabilities, limitations and workflow giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using information technology, such as computer hardware and software to access data from files

Packaging Rules

Packaging Rules

Packaging Rules

Total number of units = 15 units

4 core units, plus

6 elective units from Group A, plus

5 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

At least **1 elective unit** must be selected from Group B elective units. The remaining elective units may be selected from Group B or Group C elective units.

Up to **2 elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPSP211C Reclaim screen automatically

ICPSP215C Prepare screen

ICPSP281C Finish screen print products

ICPSP311C Reclaim screen manually

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

ICPSU211C Prepare ink and additives

ICPSU263C Perform basic industry calculations

Packaging Rules	
Group B Elective Units	
ICPSP271C	Manually produce basic screen prints
ICPSP273C	Semi-automatically produce basic screen prints
ICPSP275C	Automatically produce basic screen prints
Group C Elective Units	
ICPPP211C	Develop a basic design concept
ICPPP221C	Select and apply type
ICPPP223C	Photograph a line image
ICPPP224C	Produce pages using a page layout application
ICPPP231C	Manually combine spot colour and basic four-colour images
ICPPP232C	Electronically combine and assemble data
ICPPR242C	Produce basic pad printed product
ICPPP252C	Output images
ICPPR282C	Produce and manage basic digital print
ICPPP283C	Prepare artwork for screen printing
ICPPP286A	Scan images for reproduction
ICPPR341C	Set up for basic pad printing
ICPPR384A	Set up and produce basic digital print
ICPSP221C	Prepare substrate
ICPSP222C	Prepare and cut screen print substrate
ICPSP270C	Manually prepare and produce screen prints
ICPSP282A	Prepare film for basic screen printing
ICPSP383A	Prepare film for complex screen printing
ICPSU212C	Prepare coatings, adhesives
ICPSU221C	Pack and dispatch product
ICPSU222C	Pack and dispatch solid waste
ICPSU224C	Perform basic machine maintenance
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing
ICPSU261C	Follow OHS practices and identify environmental hazards

Packaging Rules

ICPSU281C Use computer systems

MSACMC210A Manage the impact of change on own work

MSACMS200A Apply competitive manufacturing practices

MSACMS201A Sustain process improvements

MSACMT230A Apply cost factors to work practices

MSACMT240A Apply 5S procedures in a manufacturing environment

MSACMT270A Use sustainable energy practices

MSACMT271A Use sustainable environmental practices

MSACMT280A Undertake root cause analysis

ICP20610 Certificate II in Printing and Graphic Arts (Converting, Binding and Finishing)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who perform a range of mainly routine tasks in the converting, binding and finishing sector of the printing and graphic arts industry. They will generally work under direct supervision and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Assistant machinist

Bench hand

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing)
- ICP30810 Certificate III in Printing and Graphic Arts (Sacks and Bags).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
ICP20610 Certificate II in Printing and Graphic Arts (Converting, Binding and Finishing)	
<p>The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.</p>	
Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> labelling packaged goods before shipment reading and interpreting job requirements from documents or production control systems
Teamwork	<ul style="list-style-type: none"> operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> identifying and rectifying defects, irregularities and discrepancies when packing and dispatching products
Initiative and enterprise	<ul style="list-style-type: none"> anticipating production difficulties and taking preventative action
Planning and organising	<ul style="list-style-type: none"> organising raw materials required to set up and produce hand-fastened products
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly making adjustments to machines according to specified procedures and consistent with own skill level
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using information technology, such as computer hardware and software to access data from files using machinery, such as pallet wrapping equipment and guillotines

Packaging Rules

Packaging Rules
<p>Total number of units = 15 units</p> <p>4 core units, plus</p> <p>11 elective units.</p>

Packaging Rules

8 elective units must be selected from the elective units listed below.

Up to **3 elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Elective Units

ICPCF220C Produce basic converted or finished product

ICPCF221C Set up and produce basic guillotined product

ICPCF222C Set up and operate in-line cutter

ICPCF223C Set up machine for cutting (trimming)

ICPCF224C Produce cut (trimmed) product

ICPCF225C Set up machine for basic flat-bed die cutting or embossing

ICPCF226C Produce basic flat-bed die cut or embossed product

ICPCF227C Set up machine for basic rotary die cutting or embossing

ICPCF228C Produce basic rotary die cut or embossed product

ICPCF231C Set up machine for basic flat-bed cutting

ICPCF232C Produce basic flat-bed cut product

ICPCF235C Set up machine for basic rotary cutting

ICPCF236C Produce basic rotary cut product

ICPCF241C Set up machine for basic single or continuous folding

ICPCF242C Produce basic single or continuous folded product

ICPCF243C Set up machine for basic collating or inserting (sheet/section)

Packaging Rules

ICPCF244C	Produce basic collated or inserted (sheet/section) product
ICPCF261C	Set up machine for basic adhesive, mechanical or thermal fastening
ICPCF262C	Produce basic adhesive, mechanical or thermal fastened product
ICPCF263C	Set up and produce hand-fastened product
ICPCF281C	Set up machine for basic laminating
ICPCF282C	Produce basic laminated product
ICPCF294C	Set up profile cutting for envelope manufacture
ICPCF2101C	Set up and run machine for sewing
ICPSU120C	Pack product
ICPSU201C	Prepare, load and unload reels and cores on and off machine
ICPSU202C	Prepare, load and unload product on and off machine
ICPSU203C	Prepare and maintain the work area
ICPSU207C	Prepare machine for operation (basic)
ICPSU208C	Operate and monitor machines (basic)
ICPSU211C	Prepare ink and additives
ICPSU212C	Prepare coatings, adhesives
ICPSU221C	Pack and dispatch product
ICPSU222C	Pack and dispatch solid waste
ICPSU224C	Perform basic machine maintenance
ICPSU225C	Perform small machine maintenance
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing
ICPSU243C	Reconcile process outputs
ICPSU261C	Follow OHS practices and identify environmental hazards
ICPSU263C	Perform basic industry calculations
ICPSU271C	Provide basic instruction for a task
ICPSU280C	Enter data into electronic system
ICPSU281C	Use computer systems
MSACMC210A	Manage the impact of change on own work
MSACMS200A	Apply competitive manufacturing practices
MSACMS201A	Sustain process improvements

Packaging Rules	
MSACMT230A	Apply cost factors to work practices
MSACMT240A	Apply 5S procedures in a manufacturing environment
MSACMT280A	Undertake root cause analysis

ICP20710 Certificate II in Printing and Graphic Arts (Sacks and Bags)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who perform a range of mainly routine tasks in the sacks and bags sector of the printing and graphic arts industry. They assist in the preparation of material and operation of sack and bag equipment while working under direct supervision.

Job Roles

Offsider
Sack/bag maker
General operator

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30710 Certificate III in Printing and Graphic Arts (Print Finishing)
- ICP30810 Certificate III in Printing and Graphic Arts (Sacks and Bags).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Prerequisite Units

Code and title	Prerequisite units required
ICPCF3100C Run and monitor in-line tube making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF3101C Run and monitor in-line bottom making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP20710 Certificate II in Printing and Graphic Arts (Sacks and Bags)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> checking job specifications for details of requirements documenting consumables used when maintaining small machines for reordering purposes labelling packaged goods before shipment
Teamwork	<ul style="list-style-type: none"> operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> documenting and reporting obvious faults and wear on sack and bag machines taking samples of products, checking the samples against specifications and adjusting machines to bring products into specifications
Initiative and enterprise	<ul style="list-style-type: none"> anticipating production difficulties and taking preventative action recommending improvements to quick changeover procedures
Planning and organising	<ul style="list-style-type: none"> organising tools required to set up and adjust machines for bag manufacture
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using machinery, such as pallet wrapping equipment and sack and bag machines

Packaging Rules

Packaging Rules

Total number of units = 15 units

4 core units, plus

<p>Packaging Rules</p> <p>2 elective units from Group A, plus 9 elective units from Group B.</p> <p>2 elective units must be selected from Group A elective units listed below.</p> <p>6 elective units must be selected from the Group B elective units listed below.</p> <p>Up to 3 Group B elective units may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.</p> <p>Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.</p>
<p>Core Units</p> <p>BSBSUS201A Participate in environmentally sustainable work practices ICPSU216C Inspect quality against required standards ICPSU260C Maintain a safe work environment ICPSU262C Communicate in the workplace</p>
<p>Group A Elective Units</p> <p>ICPCF297C Clean sack and bag machines ICPSU201C Prepare, load and unload reels and cores on and off machine* OR ICPSU202C Prepare, load and unload product on and off machine* ICPSU203C Prepare and maintain the work area</p> <p>* Both of these units can be selected in this qualification, if the enterprise requires both.</p>
<p>Group B Elective Units</p> <p>ICPCF242C Produce basic single or continuous folded product ICPCF281C Set up machine for basic laminating ICPCF298C Run and monitor sack and bag machines ICPCF2101C Set up and run machine for sewing ICPCF3100C Run and monitor in-line tube making machine for sack or bag</p>

Packaging Rules

manufacture

ICPCF3101C Run and monitor in-line bottom making machine for sack or bag
manufacture

ICPSU120C Pack product

ICPSU207C Prepare machine for operation (basic)

ICPSU221C Pack and dispatch product

ICPSU225C Perform small machine maintenance

ICPSU236C Shift loads mechanically

ICPSU261C Follow OHS practices and identify environmental hazards

ICPSU280C Enter data into an electronic system

ICPSU357C Apply quick changeover procedures

ICPSU389C Undertake basic root cause analysis

MSACMC210A Manage the impact of change on own work

MSACMS200A Apply competitive manufacturing practices

MSACMS201A Sustain process improvements

MSACMT230A Apply cost factors to work practices

MSACMT240A Apply 5S procedures in a manufacturing environment

ICP20810 Certificate II in Printing and Graphic Arts (Cartons)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who perform a range of mainly routine tasks in the paper converting sector of the printing and graphic arts industry, specific to carton manufacture. They generally work under direct supervision, and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Machine operator

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30910 Certificate III in Printing and Graphic Arts (Cartons and Corrugating).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP20810 Certificate II in Printing and Graphic Arts (Cartons)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> checking job specifications for details of requirements documenting consumables used when maintaining small machines for reordering purposes labelling packaged goods before shipment
Teamwork	<ul style="list-style-type: none"> operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> taking samples of products, checking the samples against specifications and adjusting machines to bring products into specifications
Initiative and enterprise	<ul style="list-style-type: none"> anticipating production difficulties and taking preventative action
Planning and organising	<ul style="list-style-type: none"> checking the availability of job related components organising appropriate equipment for transferring materials selecting tools and planning for basic machine maintenance
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using machinery, such as pallet wrapping equipment and flat-bed cutting machines

Packaging Rules

Packaging Rules

Total number of units = 15 units

4 core units, plus

5 elective units from Group A, plus

Packaging Rules

6 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **2 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU207C Prepare machine for operation (basic)

ICPSU208C Operate and monitor machines (basic)

ICPSU224C Perform basic machine maintenance

ICPSU281C Use computer systems

* Both of these units can be selected in this qualification, if the enterprise requires both.

Group B Elective Units

ICPCF220C Produce basic converted or finished product

ICPCF221C Set up and produce basic guillotined product

Packaging Rules

ICPCF231C	Set up machine for basic flat-bed cutting
ICPCF232C	Produce basic flat-bed cut product
ICPCF235C	Set up machine for basic rotary cutting
ICPCF236C	Produce basic rotary cut product
ICPCF241C	Set up machine for basic single or continuous folding
ICPCF242C	Produce basic single or continuous folded product
ICPCF261C	Set up machine for basic adhesive, mechanical or thermal fastening
ICPCF262C	Produce basic adhesive, mechanical or thermal fastened product
ICPCF281C	Set up machine for basic laminating
ICPCF282C	Produce basic laminated product
ICPCF2104C	Set up single-faced web
ICPCF2106C	Set up double-faced web
ICPCF2108C	Produce basic folded and glued cartons
ICPCF3105C	Produce single-faced web
ICPCF3107C	Produce double-faced web
ICPCF311C	Prepare for cutting forme and stripper making
ICPCF312C	Set cutting forme and strippers
ICPPP268C	Make photopolymer plates (flexographic)
ICPPP281C	Design basic carton
ICPPR211C	Mount and proof flexographic plates for basic printing
ICPPR313C	Set up for basic flexographic printing
ICPPR261C	Set up for foil stamping
ICPPR262C	Produce foil stamped product
ICPPR271C	Set up for basic coating
ICPPR272C	Produce basic coated product
ICPSU211C	Prepare ink and additives
ICPSU212C	Prepare coatings, adhesives
ICPSU221C	Pack and dispatch product
ICPSU222C	Pack and dispatch solid waste
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing

Packaging Rules

ICPSU263C	Perform basic industry calculations
ICPSU271C	Provide basic instruction for a task
ICPSU261C	Follow OHS practices and identify environmental hazards
ICPSU323C	Dispose of waste
MSACMC210A	Manage the impact of change on own work
MSACMS200A	Apply competitive manufacturing practices
MSACMS201A	Sustain process improvements
MSACMT230A	Apply cost factors to work practices
MSACMT240A	Apply 5S procedures in a manufacturing environment
MSACMT280A	Undertake root cause analysis

ICP20910 Certificate II in Printing and Graphic Arts (Corrugating)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who perform a range of mainly routine tasks in paper converting sector, specific to corrugating in the printing and graphic arts industry. They prepare materials and operate and monitor corrugating equipment and machinery and generally work under direct supervision, and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Machine operator

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP30910 Certificate III in Printing and Graphic Arts (Cartons and Corrugating).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP20910 Certificate II in Printing and Graphic Arts (Corrugating)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> checking job specifications for details of requirements documenting consumables used when maintaining small machines for reordering purposes reading and interpreting job specifications from documents and data systems
Teamwork	<ul style="list-style-type: none"> operating production processes and shutting down machinery in association with fellow workers
Problem solving	<ul style="list-style-type: none"> taking samples of products, checking the samples against specifications and adjusting machines to bring products into specifications
Initiative and enterprise	<ul style="list-style-type: none"> anticipating production difficulties and taking preventative action
Planning and organising	<ul style="list-style-type: none"> checking the availability of job-related components organising appropriate equipment for transferring materials selecting tools and planning for basic machine maintenance
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> operating machines to produce corrugated paper and cardboard products using computerised control, monitoring and data entry systems

Packaging Rules

Packaging Rules

Total number of units = 15 units

4 core units, plus

5 elective units from Group A, plus

Packaging Rules

6 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **2 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU207C Prepare machine for operation (basic)

ICPSU208C Operate and monitor machines (basic)

ICPSU224C Perform basic machine maintenance

ICPSU280C Enter data into electronic system

* Both of these units can be selected in this qualification, if the enterprise requires both.

Group B Elective Units

ICPCF2104C Set up single-faced web

ICPCF2106C Set up double-faced web

Packaging Rules

ICPCF3105C Produce single-faced web

ICPCF3107C Produce double-faced web

ICPSU222C Pack and dispatch solid waste

ICPSU235C Lift loads mechanically

ICPSU236C Shift loads mechanically

ICPSU241C Undertake warehouse or stores materials processing

ICPSU261C Follow OHS practices and identify environmental hazards

ICPSU271C Provide basic instruction for a task

MSACMC210A Manage the impact of change on own work

MSACMS200A Apply competitive manufacturing practices

MSACMS201A Sustain process improvements

MSACMT230A Apply cost factors to work practices

MSACMT240A Apply 5S procedures in a manufacturing environment

MSACMT280A Undertake root cause analysis

ICP21010 Certificate II in Printing and Graphic Arts (Mail House)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who perform a range of mainly routine tasks in the mail house sector of the printing and graphic arts industry. They generally work under direct supervision, and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

- Mail house operators.
-

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP31010 Certificate III in Printing and Graphic Arts (Mail House).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • checking and confirming inserts for mail against job specifications • documenting consumables used when maintaining small machines for reordering purposes
Teamwork	<ul style="list-style-type: none"> • notifying the supervisor if there are discrepancies or if the job does not reconcile • working with printers to get sign off before commencement of inserting into envelopes
Problem solving	<ul style="list-style-type: none"> • identifying and rectifying production faults for in-line mail machinery • identifying, separating and reprocessing mail that is damaged, underpaid or non-conforming • using root cause analysis of problems to determine the cause
Initiative and enterprise	<ul style="list-style-type: none"> • identifying a range of causes and solutions for problems • identifying improvements to own work plan
Planning and organising	<ul style="list-style-type: none"> • accurately and efficiently organising mail and parcels into groups • organising appropriate equipment for transferring materials • selecting tools and planning for basic machine maintenance
Self-management	<ul style="list-style-type: none"> • confirming own and team work priorities • following legal requirements and workplace policy and procedures in relation to the security of mail • seeking assistance to determine the root cause of problems
Learning	<ul style="list-style-type: none"> • contacting the supervisor when quality standards are not met • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using barcode equipment to reconcile outputs • using computerised control, monitoring and data entry systems

Packaging Rules

Total number of units = 15 units

4 core units *plus*

5 elective units from Group A *plus*

6 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPCF202C Handline mail

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

ICPSU224C Perform basic machine maintenance

ICPSU225C Perform small machine maintenance

ICPSU243C Reconcile process outputs

TLIA4107A Manually sort mail and parcels

Group B Elective Units

ICPCF105C Operate in-line mail machine

ICPCF203C Collate and insert mail manually

ICPCF204C Operate addressing machine

ICPCF208C Set up and operate a cheque mailer machine

ICPCF223C Set up machine for cutting (trimming)

ICPCF224C Produce cut (trimmed) product

ICPCF225C Set up machine for basic flat-bed die cutting or embossing

ICPCF231C Set up machine for basic flat-bed cutting

ICPCF232C Produce basic flat-bed cut product

ICPCF245C Set up and produce hand-collated or inserted product
ICPPR282C Produce and manage basic digital print
ICPSU120C Pack product
ICPSU235C Lift loads mechanically
ICPSU236C Shift loads mechanically
ICPSU261C Follow OHS practices and identify environmental hazards
ICPSU280C Enter data into an electronic system
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
TLIA2043A Consolidate mail
TLIA2047A Stream mail
TLIW3006A Operate computerised mail and parcels sorting equipment

ICP21110 Certificate II in Printing and Graphic Arts (Ink Manufacture)

Modification History

Not applicable.

Description

Descriptor

This qualification applies to individuals who perform a range of mainly routine tasks in the ink manufacturing sector of the printing and graphic arts industry. They select and prepare material, maintain the manufacturing process and apply quality control against required standards. They will generally work under direct supervision and use limited practical skills and fundamental operational knowledge in a defined context.

Job Roles

Ink mixer

Pathways Information

Qualification Pathways

Entry requirements

There are no entry requirements for this qualification.

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP31110 Certificate III in Printing and Graphic Arts (Ink Manufacture).
-

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification considerations

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

Not applicable.

Employability Skills Summary

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

ICP21110 Certificate II in Printing and Graphic Arts (Ink Manufacture)

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • completing records, logs and checklists documenting ink manufacture documenting consumables used when maintaining small machines for reordering purposes • reading and interpreting job requirements
Teamwork	<ul style="list-style-type: none"> • liaising with subcontractors, printers and waste agencies when disposing of waste • manufacturing inks and coatings in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • identifying quality problems and adjusting the equipment/mix to correct them
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating production difficulties and taking preventative action • recommending changes to waste disposal procedures
Planning and organising	<ul style="list-style-type: none"> • organising appropriate equipment for transferring materials • selecting and organising chemicals, inks, materials and equipment to manufacture ink • selecting tools and planning for basic machine maintenance
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • checking weighing and measuring devices for accuracy and recalibrating them if necessary • using computerised control, monitoring and data entry systems

Packaging Rules

Packaging Rules

Total number of units = 15

Packaging Rules

4 core units, plus

5 elective units from Group A, plus

6 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

3 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPIM211C Select and prepare materials for production

ICPIM221C Blend chemicals

ICPSU203C Prepare and maintain the work area

ICPSU221C Pack and dispatch product

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

Group B Elective Units

ICPIM251C Filter and pack product

ICPIM331C Manufacture inks and coatings

Packaging Rules

ICPIM335C	Manufacture varnish and resin
ICPSU222C	Pack and dispatch solid waste
ICPSU224C	Perform basic machine maintenance
ICPSU235C	Lift loads mechanically
ICPSU236C	Shift loads mechanically
ICPSU241C	Undertake warehouse or stores materials processing
ICPSU261C	Follow OHS practices and identify environmental hazards
ICPSU281C	Use computer systems
ICPSU323C	Dispose of waste
MSACMC210A	Manage the impact of change on own work
MSACMS200A	Apply competitive manufacturing practices
MSACMS201A	Sustain process improvements
MSACMT230A	Apply cost factors to work practices
MSACMT240A	Apply 5S procedures in a manufacturing environment
MSACMT280A	Undertake root cause analysis

ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30110 Certificate III in Printing and Graphic Arts (Graphic Design Production).</p>

Description

This qualification applies to an individual working in graphic design in the printing and graphic arts industry. They produce art and layouts of wording for reproduction in print and electronic media, such as magazines, newspapers, books and websites, and for corporate identity programs, exhibitions and advertising. While covering the design essentials this qualification has a focus on the preparation of design where the application is for print production. They may also provide some leadership and guidance to others with some limited responsibility for the output of others.

Job roles

- Desktop publisher
- Assistant graphic artist
-

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing).

Pathways from the qualification

At the completion of this qualification students could choose to enter a:

- ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP311C Develop a detailed design concept	ICPPP211C Develop a basic design concept
ICPPP324C Create pages using a page layout application	ICPPP224C Produce pages using a page layout application
ICPPP452C Output complex images direct to plate or press	ICPPP352C Output complex images
ICPPP352C Output complex images	ICPPP252C Output images

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> identifying and clarifying colour requirements from the brief reading and interpreting job requirements
Teamwork	<ul style="list-style-type: none"> working with clients to develop a brief to meet their requirements
Problem solving	<ul style="list-style-type: none"> monitoring production quality and making minor adjustments to processes trailing typography, designs and colours that may fit the brief and evaluating them against selection criteria
Initiative and enterprise	<ul style="list-style-type: none"> identifying and accessing relevant sources of information about design processes
Planning and organising	<ul style="list-style-type: none"> identifying and collecting resources such as equipment, tools, materials and techniques for the development of graphic designs
Self-management	<ul style="list-style-type: none"> following procedures and using personal protective equipment correctly working within moral, copyright, intellectual property and legislative requirements and policies
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using colour tools to inform choice of colours using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 19 units

4 core units *plus*

11 elective units from Group A *plus*

4 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

1 elective unit must be selected from the Group B elective units.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

CUVGRD302A Use typography techniques

ICPKN311C Apply knowledge of the graphic pre-press sector

ICPMM322C Edit a digital image

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application

ICPPP225C Produce graphics using a graphics application

ICPPP252C Output images

ICPPP311C Develop a detailed design concept

ICPPP324C Create pages using a page layout application

ICPPP325C Create graphics using a graphics application

ICPPP397A Transfer digital files

Group B Elective Units

BSBCM401A Make a presentation

BSBDES302A Explore and apply the creative design process to 2D forms

CUVACD101A Use basic drawing techniques

CUVACD201A Develop drawing skills to communicate ideas

CUVACD401A Integrate colour theory and design processes
ICPMM321C Capture a digital image
ICPPP260C Proof images
ICPPP284B Produce PDF files for online or screen display
ICPPP286A Scan images for reproduction
ICPPP334C Prepare an imposition format for printing processes
ICPPP352C Output complex images
ICPPP386C Undertake digital proofing
ICPPP411C Undertake a complex design brief
ICPPP421C Compose and evaluate typography
ICPPP423C Apply colour to design brief
ICPPP430C Manage colour
ICPPP435C Generate complex imposition
ICPPP452C Output complex images direct to plate or press
ICPSU351C Undertake basic production scheduling
ICPSU381C Operate and maintain computer resources
ICPSU456C Control production
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces 0 Certificate III in Printing and Graphic Arts (Graphic Pre-press).</p>

Description

This qualification applies to individuals working as a pre-press tradesperson in the printing and graphic arts industry. Typically they design and prepare layouts and artwork, manipulate images and text to meet production and design requirements and apply solutions to a defined range of problems associated with, and characteristic to, the print medium. They may also provide some leadership and guidance to others with some limited responsibility for the output of others.

Job roles

- Pre-press operator
- Pre-press technician

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP321C Produce a typographic image	ICPPP221C Select and apply type
ICPPP324C Create pages using a page layout application	ICPPP224C Produce pages using a page layout application
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display
ICPPR387A Use colour management for production	ICPPR284A Introduction to colour management
ICPPR495A Set up and use complex colour management for production	ICPPR387A Use colour management for production

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> communicating with clients and supervisors to confirm design briefs and gain approval of proofs for production reading and interpreting job requirements
Teamwork	<ul style="list-style-type: none"> operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> adjusting fit, maximising efficiency of imposition and using colour correction to meet the requirements of the brief monitoring production quality and making minor adjustments to processes resolving specific problems, for example with graphics applications
Initiative and enterprise	<ul style="list-style-type: none"> monitoring and implementing new technology and work processes
Planning and organising	<ul style="list-style-type: none"> accessing data on software capabilities and production requirements and matching them to the job brief gathering client information relevant to producing multiple image plates
Self-management	<ul style="list-style-type: none"> following obligations involved in copyright in work practices following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> using computerised control, monitoring and data entry systems using information technology, such as computer hardware and software to access and store data from files

Packaging Rules

Total number of units = 21 units

4 core units *plus*

12 elective units from Group A *plus*

5 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

2 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPKN311C Apply knowledge of the graphic pre-press sector

ICPMM263C Access and use the Internet

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application

ICPPP225C Produce graphics using a graphics application

ICPPP252C Output images

ICPPP321C Produce a typographic image

ICPPP322C Digitise images for reproduction

ICPPP324C Create pages using a page layout application

ICPPP334C Prepare an imposition format for printing processes

ICPPP386C Undertake digital proofing

ICPPP397A Transfer digital files

Group B Elective Units

CUFANM301A Create 2D digital animation

ICAWEB410A Apply web authoring tool to convert client data for websites

ICAWEB429A Create a markup language document to specification

ICPMM296C Create and test a CD-ROM/DVD
ICPMM321C Capture a digital image
ICPMM322C Edit a digital image
ICPMM344C Manipulate and incorporate audio into multimedia presentations
ICPMM346C Incorporate video into multimedia presentations
ICPPP231C Manually combine spot colour and basic four-colour images
ICPPP266C Produce relief plates
ICPPP267C Produce offset lithographic plates
ICPPP268C Make photopolymer plates (flexographic)
ICPPP269C Produce photopolymer plates for pad printing
ICPPP272C Produce gravure cylinders manually
ICPPP284B Produce PDF files for online or screen display
ICPPP325C Create graphics using a graphics application
ICPPP331C Manually combine complex four-colour images
ICPPP370C Produce multiple image plates
ICPPP372C Produce gravure cylinders electronically
ICPPP385C Operate a database for digital printing
ICPPP396A Generate high-end PDF files
ICPPP430C Manage colour
ICPPR282C Produce and manage basic digital print
ICPPR284A Introduction to colour management
ICPPR383C Prepare for personalised digital printing
ICPPR384A Set up and produce basic digital print
ICPPR387A Use colour management for production
ICPPR388A Preflight and import complex images for digital device
ICPPR389A Manage digital files
ICPPR495A Set up and use complex colour management for production
ICPSU345C Purchase materials and schedule deliveries
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAPMSUP390A Use structured problem solving tools

ICP30312 Certificate III in Printing and Graphic Arts (Multimedia)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30310 Certificate III in Printing and Graphic Arts (Multimedia).</p>

Description

This qualification applies to individuals working in the multimedia sector of the printing and graphic arts industry. They apply solutions to a defined range of unpredictable problems, design and author multimedia information, create electronic documents, manipulate databases and information systems. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job roles

- Multimedia content author
- Multimedia/graphic design assistant
- Website designer
- Electronic publisher
- Assistant desktop publisher
- Pre-press worker
- Multimedia production technician

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)
- ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP324C Create pages using a page layout application	ICPPP224C Produce pages using a page layout application
ICPPP311C Develop a detailed design concept	ICPPP211C Develop a basic design concept
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • accurately using print industry terminology and vocabulary • reading and interpreting job requirements
Teamwork	<ul style="list-style-type: none"> • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • eliminating or treating defects in sound recording • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • monitoring trends and international standards in the printing industry and using the information to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • implementing the principles of efficient production management • planning the production of page layout and graphics
Self-management	<ul style="list-style-type: none"> • following principles and obligations of copyright in personal work practices • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions • maintaining knowledge of industry trends
Technology	<ul style="list-style-type: none"> • applying multimedia platforms and computer systems when producing multimedia products • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 19 units

4 core units *plus*

11 elective units from Group A *plus*

4 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

1 elective unit must be selected from the Group B elective units.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICAWEB429A Create a markup language document to specification

ICPKN315C Apply knowledge and requirements of the multimedia sector

ICPMM263C Access and use the Internet

ICPMM322C Edit a digital image

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application

ICPPP225C Produce graphics using a graphics application

ICPPP252C Output images

ICPPP324C Create pages using a page layout application

ICPPP397A Transfer digital files

ICPSU381C Operate and maintain computer resources

Group B Elective Units

BSBCUS301B Deliver and monitor a service to customers

BSBDES302A Explore and apply the creative design process to 2D forms

BSBINN201A Contribute to workplace innovation

CUFANM301A Create 2D digital animation

CUFDIG404A Apply scripting language to authoring
CUFDIG201A Maintain interactive content
ICANWK414A Create a common gateway interface script
ICAWEB418A Use development software and IT tools to build a basic website
ICAWEB409A Develop cascading style sheets
ICAWEB510A Analyse information and assign meta-tags
ICAWEB421A Ensure website content meets technical protocols and standards
ICAWEB410A Apply web authoring tool to convert client data for websites
ICPMM296C Create and test a CD-ROM/DVD
ICPMM321C Capture a digital image
ICPMM344C Manipulate and incorporate audio into multimedia presentations
ICPMM346C Incorporate video into multimedia presentations
ICPPP284B Produce PDF files for online or screen display **OR**
ICPPP311C Develop a detailed design concept
ICPPP325C Create graphics using a graphics application
ICPPP396A Generate high-end PDF files
ICPPP334C Prepare an imposition format for printing processes
ICPPP386C Undertake digital proofing
ICPPP385C Operate a database for digital printing
ICPSU351C Undertake basic production scheduling
ICPSU456C Control production
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAPMSUP390A Use structured problem solving tools

ICP30412 Certificate III in Printing and Graphic Arts (Digital Printing)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30410 Certificate III in Printing and Graphic Arts (Digital Printing).</p>

Description

This qualification applies to skilled operators in the digital printing industry who are responsible for digital production workflow, such as job creation, printing and finishing. They apply a broad range of competencies in a varied work context, using some discretion and judgement and relevant theoretical knowledge. They provide technical advice and support to others.

Job Roles

- Digital print manager

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20310 Certificate II in Printing and Graphic Arts (Digital Printing).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display
ICPPP452C Output complex image direct to plate or press	ICPPP352C Output complex images
ICPPR496A Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • communicating with production managers and suppliers about materials • reading and interpreting job requirements and briefs • liaising with clients about productivity options, quality expectations and print cost
Teamwork	<ul style="list-style-type: none"> • identifying production capacity and constraints for work groups • liaising with internal and external production operators to determine start and duration times for print runs • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • maintaining and adjusting machine settings to ensure productivity speed and quality are achieved • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • identifying productivity options for digital print systems
Planning and organising	<ul style="list-style-type: none"> • establishing procedures to ensure stores are maintained at appropriate levels • selecting appropriate software programs
Self-management	<ul style="list-style-type: none"> • conveying a positive impression to customers when selling products and services • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions • providing advice to clients on appropriate substrates and document finishing materials • using the help function of software programs
Technology	<ul style="list-style-type: none"> • using computerised control, monitoring and data entry systems • using measuring tools, such as spectrophotometers and densitometers

Packaging Rules

Total number of units = 19

4 core units *plus*

11 elective units from Group A *plus*

4 elective units from Group B.

Up to **2 elective units** from Group A can be substituted for Group B elective units.

1 elective unit must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBCUS301B Deliver and monitor a service to customers

BSBSMB301A Investigate micro business opportunities

ICPKN321A Apply knowledge and requirements of digital production

ICPPR282C Produce and manage basic digital print

ICPPR384A Set up and produce basic digital print

ICPSU203C Prepare and maintain the work area

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

ICPSU342C Undertake inventory procedures

ICPSU351C Undertake basic production scheduling

SIRXSLS001A Sell products and services

SIRXSLS002A Advise on products and services

Group B Elective Units

BSBITU306A Design and produce business documents

BSBSMB402A Plan small business finances

BSBSMB403A Market the small business

ICAWEB429A Create a markup language document to specification

ICPCF221C Set up and produce basic guillotined product

ICPCF225C Set up machine for basic flat-bed die cutting or embossing
ICPCF226C Produce basic flat-bed die cut or embossed product
ICPCF231C Set up machine for basic flat-bed cutting
ICPCF232C Produce basic flat-bed cut product
ICPCF241C Set up machine for basic single or continuous folding
ICPCF242C Produce basic single or continuous folded product
ICPCF243C Set up machine for basic collating or inserting (sheet/section)
ICPCF244C Produce basic collated (sheet/section) product
ICPCF281C Set up machine for basic laminating
ICPCF282C Produce basic laminated product
ICPCF381C Set up machine for complex laminating
ICPCF382C Produce complex laminated product
ICPPP211C Develop a basic design concept
ICPPP224C Produce pages using a page layout application
ICPPP252C Output images
ICPPP266C Produce relief plates
ICPPP268C Make photopolymer plates (flexographic)
ICPPP269C Produce photopolymer plates for pad printing
ICPPP284B Produce PDF files for online or screen display
ICPPP334C Prepare an imposition format for printing processes
ICPPP352C Output complex images
ICPPP370C Produce multiple image plates
ICPPP385C Operate a database for digital printing
ICPPP396A Generate high-end PDF files
ICPPP397A Transfer digital files
ICPPP452C Output complex images direct to plate or press
ICPPP484C Set up and operate automated workflow
ICPPR271C Set up for basic coating
ICPPR272C Produce basic coated product
ICPPR382C Produce and manage complex digital print
ICPPR383C Prepare for personalised digital printing
ICPPR385A Apply software applications to digital production
ICPPR386A Troubleshoot digital media
ICPPR387A Use colour management for production
ICPPR388A Preflight and import complex images for digital device
ICPPR389A Manage digital files
ICPPR390A Generate a proof for digital production
ICPPR392A Set up and produce specialised digital print
ICPPR471C Set up for complex coating
ICPPR472C Produce complex coated product
ICPPR484C Prepare for variable data printing
ICPPR496A Set up and produce complex digital print
ICPSP311C Reclaim screen manually
ICPSP215C Prepare screen
ICPSP222C Prepare and cut screen print substrate
ICPSP270C Manually prepare and produce screen prints
ICPSP273C Semi-automatically produce basic screen prints
ICPSP275C Automatically produce basic screen prints

ICPSP351C Prepare machine and drying/curing unit
ICPSP374C Operate a semi-automatic screen printing machine
ICPSP382C Produce computer image for screen printing
ICPSP383A Prepare film for complex screen printing
ICPSU485C Implement a just-in-time (JIT) system
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT270A Use sustainable energy practices
MSACMT271A Use sustainable environmental practices
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP30512 Certificate III in Printing and Graphic Arts (Printing)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30510 Certificate III in Printing and Graphic Arts (Printing).</p>

Description

This qualification applies to individuals working as print machinists in the printing and graphic arts industry. Print machinists typically set up and operate letterpress, lithographic, flexographic, gravure printing presses, digital printers and work on a range of printed products. They prepare material, monitor and run equipment and machinery and apply solutions to a defined range of unpredictable problems. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Print machinist

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing)
- ICP20410 Certificate II in Printing and Graphic Arts (Print Production Support).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40310 Certificate IV in Printing and Graphic Arts (Printing)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPSU311C Prepare ink and additives (advanced)	ICPSU211C Prepare ink and additives
ICPPR494A Apply advanced software applications to digital production	ICPPR385A Apply software applications to digital production

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • negotiating requirements and methods of production with clients • reading and interpreting job requirements • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating production processes in association with fellow workers • working with clients to decide on the best printing processes and ensure proofs meet their requirements
Problem solving	<ul style="list-style-type: none"> • monitoring production quality and making minor adjustments to processes • conducting a proof run, inspecting and testing the proof for quality and adjusting the printing machinery to ensure the product meets quality criteria
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating and rectifying production problems • monitoring trends in the printing industry to inform personal work practices • recommending improvements to quick changeover procedures
Planning and organising	<ul style="list-style-type: none"> • selecting appropriate print processes and inks and additives • collecting and assessing data about printing processes and machine specifications and how these interact
Self-management	<ul style="list-style-type: none"> • following principles and obligations of copyright in personal work practices • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions • implementing and monitoring new technology and work processes
Technology	<ul style="list-style-type: none"> • selecting and using printing processes based on knowledge of the capabilities and limitations of the processes • using computerised control, monitoring and data entry systems

	<ul style="list-style-type: none">• using information technology, such as computer hardware and software to access data from files
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Packaging Rules

Total number of units = 21 units

4 core units *plus*

**11 elective units from Group A *plus*
of the remaining 6 elective units**

Up to **2 elective units** from Group A can be substituted with Group C elective units listed below.

1 elective unit must be selected from Group B elective units. The remaining elective units may be selected from Group C elective units.

1 elective unit may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPKN312C Apply knowledge of printing machining **OR**

ICPKN321A Apply knowledge and requirements of digital production

ICPPR385A Apply software applications to digital production

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU207C Prepare machine for operation (basic)

ICPSU208C Operate and monitor machines (basic)

ICPSU211C Prepare ink and additives

ICPSU224C Perform basic machine maintenance

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

ICPSU323C Dispose of waste

ICPSU357C Apply quick changeover procedures

* Both of these units can be selected in this qualification, if the enterprise requires both.

Group B Elective Units

ICPPR392A Set up and produce specialised digital print **OR**
ICPPR413C Set up for complex flexographic printing **OR**
ICPPR421C Set up for complex gravure printing **OR**
ICPPR431C Set up for complex lithographic printing **OR**
ICPPR441C Set up for complex pad printing **OR**
ICPPR451C Set up for complex relief printing **OR**
ICPPR496A Set up and produce complex digital print

Group C Elective Units

BSBCUS301B Deliver and monitor a service to customers
ICAWEB429A Create a markup language document to specification
ICPCF221C Set up and produce basic guillotined product
ICPCF225C Set up machine for basic flat-bed die cutting or embossing
ICPCF226C Produce basic flat-bed die cut or embossed product
ICPCF231C Set up machine for basic flat-bed cutting
ICPCF232C Produce basic flat-bed cut product
ICPCF241C Set up machine for basic single or continuous folding
ICPCF242C Produce basic single or continuous folded product
ICPCF243C Set up machine for basic collating or inserting (sheet/section)
ICPCF244C Produce basic collated (sheet/section) product
ICPCF281C Set up machine for basic laminating
ICPCF282C Produce basic laminated product
ICPCF341C Set up machine for complex sequenced or multiple folding
ICPCF381C Set up machine for complex laminating
ICPCF382C Produce complex laminated product
ICPPP211C Develop a basic design concept
ICPPP252C Output images
ICPPP266C Produce relief plates
ICPPP267C Produce offset lithographic plates
ICPPP268C Make photopolymer plates (flexographic)
ICPPP269C Produce photopolymer plates for pad printing
ICPPP272C Produce gravure cylinders manually
ICPPP352C Output complex images
ICPPP370C Produce multiple image plates
ICPPP372C Produce gravure cylinders electronically
ICPPP397A Transfer digital images
ICPPR211C Mount and proof flexographic plates for basic printing
ICPPR214C Produce basic flexographic printed product
ICPPR222C Produce basic gravure printed product
ICPPR232C Produce basic lithographic printed product
ICPPR242C Produce basic pad printed product
ICPPR261C Set up for foil stamping
ICPPR262C Produce foil stamped product
ICPPR271C Set up for basic coating
ICPPR272C Produce basic coated product
ICPPR282C Produce and manage basic digital print
ICPPR288A Produce basic relief printed product

ICPPR313C Set up for basic flexographic printing
ICPPR314C Produce complex flexographic printed product **OR**
ICPPR321C Set up for basic gravure printing
ICPPR322C Produce complex gravure printed product **OR**
ICPPR331C Set up for basic lithographic printing
ICPPR332C Produce complex lithographic printed product **OR**
ICPPR341C Set up for basic pad printing
ICPPR342C Produce complex pad printed product **OR**
ICPPR382C Produce and manage complex digital print
ICPPR383C Prepare for personalised digital printing
ICPPR384A Set up and produce basic digital print **OR**
ICPPR394A Produce complex relief printed product
ICPPR385A Apply software applications to digital production
ICPPR386A Troubleshoot digital media
ICPPR387A Use colour management for production
ICPPR388A Preflight and import complex images for digital device
ICPPR389A Manage digital files
ICPPR390A Generate a proof for digital production
ICPPR393A Set up for basic relief printing
ICPPR494A Apply advanced software applications to digital production
ICPSP311C Reclaim screen manually
ICPSP215C Prepare screen
ICPSP222C Prepare and cut screen print substrate
ICPSP270C Manually prepare and produce screen prints
ICPSP273C Semi-automatically produce basic screen prints
ICPSP275C Automatically produce basic screen prints
ICPSP351C Prepare machine and drying/curing unit
ICPSP374C Operate a semi-automatic screen printing machine
ICPSP382C Produce computer image for screen printing
ICPSP383A Prepare film for complex screen printing
ICPSU212C Prepare coatings, adhesives
ICPSU221C Pack and dispatch product
ICPSU222C Pack and dispatch solid waste
ICPSU235C Lift loads mechanically
ICPSU236C Shift loads mechanically
ICPSU241C Undertake warehouse or stores materials processing
ICPSU271C Provide basic instruction for a task
ICPSU311C Prepare ink and additives (advanced)
ICPSU342C Undertake inventory procedures
ICPSU351C Undertake basic production scheduling
ICPSU362C Communicate as part of a work team
ICPSU381C Operate and maintain computer resources
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis

MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30610 Certificate III in Printing and Graphic Arts (Screen Printing).</p>

Description

This qualification applies to individuals working as screen printers in the printing and graphic arts industry. They set up and operate power driven or hand-operated, screen printing machines to create visual images. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Screen printer and stencil preparer

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20210 Certificate II in Printing and Graphic Arts (Desktop Publishing)
- ICP20410 Certificate II in Printing and Graphic Arts (Print Production Support)
- ICP20510 Certificate II in Printing and Graphic Arts (Screen Printing).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP311C Develop a detailed design concept	ICPPP211C Develop a basic design concept
ICPPP321C Produce a typographic image	ICPPP221C Select and apply type
ICPSU311C Prepare ink and additives (advanced)	ICPSU211C Prepare ink and additives

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • negotiating requirements and methods of production with clients • reading and interpreting job requirements • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating production processes in association with fellow workers according to the planned daily schedule • working with clients to decide on the best printing processes
Problem solving	<ul style="list-style-type: none"> • conducting a proof run, inspecting and testing the proof for quality and adjusting the printing machinery to ensure the product meets quality criteria • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • making recommendations on possible solutions when planning printing operations • monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • accessing data about machine capabilities, production processes and customer needs and using them in the planning process • selecting inks, additives and screens when planning for modified or new printing operations
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • demonstrating knowledge of company services, equipment capabilities, limitations and work flow • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 21 units

4 core units *plus*

11 elective units from Group A *plus*

6 elective units from Group B, Group C or Group D.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

At least **1 elective unit** must be selected from Group B and **1 elective unit** from Group C. The remaining elective units may be selected from Group B, Group C or Group D elective units.

Up to **2 elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPKN314C Apply knowledge and requirements of the screen printing sector

ICPPP382C Produce computer image for screen printing

ICPSP215C Prepare screen

ICPSP233C Manually prepare direct emulsion stencil

ICPSP311C Reclaim screen manually

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

ICPSU211C Prepare ink and additives

ICPSU263C Perform basic industry calculations

ICPSU281C Use computer systems

ICPSU352C Plan operational processes

ICPSU362C Communicate as part of a work team

Group B Elective Units

ICPSP235C Prepare stencil using photographic indirect method

ICPSP337D Prepare stencil using photographic capillary method

ICPSP282A Prepare film for basic screen printing
ICPSP333C Automatically prepare direct emulsion stencil
ICPSP339C Prepare stencil using direct projection method
ICPSP341C Prepare stencil using direct electronic imaging method

Group C Elective Units

ICPSP371C Manually produce complex screen prints **OR**
ICPSP373C Semi-automatically produce complex screen prints **OR**
ICPSP376C Operate an automatic screen printing machine **OR**
ICPSP374C Operate a semi-automatic screen printing machine

Group D Elective Units

ICPCF220C Produce basic converted or finished product
ICPCF221C Set up and produce basic guillotined product
ICPCF225C Set up machine for basic flat-bed die cutting or embossing
ICPCF231C Set up machine for basic flat-bed cutting
ICPPP211C Develop a basic design concept
ICPPP221C Select and apply type
ICPPP286A Scan images for reproduction
ICPPP223C Photograph a line image
ICPPP224C Produce pages using a page layout application
ICPPP231C Manually combine spot colour and basic four-colour images
ICPPP232C Electronically combine and assemble data
ICPPP252C Output images
ICPPP283C Prepare artwork for screen printing
ICPPP311C Develop a detailed design concept
ICPPP321C Produce a typographic image
ICPPP322C Digitise images for reproduction
ICPPP323C Photograph and produce halftone images
ICPPP334C Prepare an imposition format for printing processes
ICPPP352C Output complex images
ICPPP422C Digitise complex images for reproduction
ICPPP430C Manage colour
ICPPR342C Produce complex pad printed product
ICPPR382C Produce and manage complex digital print
ICPPR441C Set up for complex pad printing
ICPPR496A Set up and produce complex digital print
ICPSP211C Reclaim screen automatically
ICPSP221C Prepare substrate
ICPSP271C Manually produce basic screen prints
ICPSP273C Semi-automatically produce basic screen prints
ICPSP275C Automatically produce basic screen prints
ICPSP281C Finish screen print products
ICPSP351C Prepare machine and drying/curing unit
ICPSP383A Prepare film for complex screen printing
ICPSU241C Undertake warehouse or stores materials processing

ICPSU311C Prepare ink and additives (advanced)
ICPSU321C Pack and dispatch (advanced)
ICPSU323C Dispose of waste
ICPSU351C Undertake basic production scheduling
ICPSU381C Operate and maintain computer resources
ICPSU464C Provide customer service and education
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAPMSUP390A Use structured problem solving tools

ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces 0 Certificate III in Printing and Graphic Arts (Print Finishing).</p>

Description

This qualification applies to individuals working as a binder and finisher in the printing and graphic arts industry. Binders and finishers assemble, bind and cover books, other publications and printed products by hand or machine. They are responsible for post-press and finishing stages of the print process and apply solutions to a defined range of unpredictable problems and may provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Binder and finisher

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20410 Certificate II in Printing and Graphic Arts (Print Production Support)
- ICP20610 Certificate II in Printing and Graphic Arts (Converting, Binding and Finishing).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter:

- ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • liaising with clients to maintain and adjust production • reading and interpreting job specifications from job documentation or the production control system • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating and shutting down production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • identifying defects, irregularities and discrepancies and taking action to rectify them • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating and rectifying production problems • making recommendations on possible solutions when planning finishing operations • monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • accessing data about machine capabilities, production processes and customer needs and using them in the planning process • checking the availability of job components and planning set-up of machines
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 21 units

4 core units *plus*

8 elective units from Group A *plus*

9 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

7 elective units must be selected from the Group B elective units listed below.

Up to **2 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPKN313C Apply knowledge and requirements of the converting, binding and finishing sector

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

ICPSU207C Prepare machine for operation (basic)

ICPSU208C Operate and monitor machines (basic)

ICPSU224C Perform basic machine maintenance

ICPSU323C Dispose of waste

ICPSU351C Undertake basic production scheduling

ICPSU352C Plan operational processes

Group B Elective Units

ICPCF221C Set up and produce basic guillotine product

ICPCF241C Set up machine for basic single or continuous folding

ICPCF242C Produce basic single or continuous folded product

ICPCF243C Set up machine for basic collating or inserting (sheet/section)

ICPCF244C Produce basic collated (sheet/section) product

ICPCF311C Prepare for cutting forme and stripper making

ICPCF312C Set cutting forme and strippers
ICPCF320C Produce complex converted or finished product
ICPCF321C Set up and produce complex guillotined product
ICPCF326C Undertake pre make-ready for die cutting
ICPCF327C Set up machine for complex rotary die cutting or embossing
ICPCF341C Set up machine for complex sequenced or multiple folding
ICPCF342C Produce complex sequenced or multiple folded product
ICPCF343C Set up machine for complex collating or inserting (sheet/section/reel)
ICPCF344C Produce complex collated or inserted (sheet/section/reel) product
ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening
ICPCF362C Produce complex adhesive, mechanical or sewn fastened product
ICPCF369C Set up and produce hand-made box
ICPCF371C Decorate paper
ICPCF381C Set up machine for complex laminating
ICPCF382C Produce complex laminated product
ICPCF391C Use electronic monitoring systems (converting and finishing)
ICPCF392C Produce product on window gluer
ICPCF393C Set up machine for envelope manufacture
ICPCF395C Set up and operate folder gluer machine
ICPCF396C Set up in-line scoring, folding and gluing machine for envelope manufacture
ICPCF3103C Run and monitor envelope manufacturing machines
ICPCF3105C Produce single-faced web
ICPCF3107C Produce double-faced web
ICPCF465C Set up and produce hand bound book
ICPPR261C Set up for foil stamping
ICPPR262C Produce foil stamped product
ICPPR271C Set up for basic coating
ICPPR272C Produce basic coated product
ICPPR282C Produce and manage basic digital print
ICPPR382C Produce and manage complex digital print
ICPSU263C Perform basic industry calculations
ICPSU321C Pack and dispatch (advanced)
ICPSU342C Undertake inventory procedures
ICPSU345C Purchase materials and schedule deliveries
ICPSU351C Undertake basic production scheduling
ICPSU357C Apply quick changeover procedures
ICPSU362C Communicate as part of a work team
ICPSU554C Manage teams
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP30812 Certificate III in Printing and Graphic Arts (Sacks and Bags)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30810 Certificate III in Printing and Graphic Arts (Sacks and Bags).</p>

Description

This qualification applies to skilled operators who work in the sacks and bags area in the printing industry. They prepare material, monitor and run a range of sack and bag equipment and apply solutions to a defined range of unpredictable problems. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Sack/bag machinist

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20710 Certificate II in Printing and Graphic Arts (Sacks and Bags).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in qualification with prerequisites

Code and title	Prerequisite units required
ICPCF3100C Run and monitor in-line tube making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines
ICPCF398C Set up in-line bottom making machine for sack or bag manufacture	ICPCF298C Run and monitor sack and bag machines

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • liaising with clients to maintain and adjust production • reading and interpreting job specifications from job documentation or the production control system • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating and shutting down production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • conducting a proof run, inspecting and testing the proof for quality and adjusting the printing machinery to ensure the product meets quality criteria • identifying defects, irregularities and discrepancies and taking action to rectify them • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating and rectifying production problems • making recommendations on possible solutions when planning operations • monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • accessing data about machine capabilities, production processes and customer needs and using them in the planning process • checking the availability of job components and planning set-up of flexographic machines
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 19 units

4 core units *plus*

5 elective units from Group A *plus*

10 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

6 elective units must be selected from the Group B elective units listed below.

Up to **4 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBWOR301B Organise personal work priorities and development

ICPKN319C Apply knowledge and processes of converting paper-based products

ICPCF298C Run and monitor sack and bag machines

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU225C Perform small machine maintenance

ICPSU224C Perform basic machine maintenance

ICPSU323C Dispose of waste

* Both of these units can be selected in this qualification, if the enterprise requires both.

Group B Elective Units

BSBINN201A Contribute to workplace innovation

BSBFLM309C Support continuous improvement systems and processes

ICPCF221C Set up and produce basic guillotined product

ICPCF241C Set up machine for basic single or continuous folding

ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening

ICPCF281C Set up machine for basic laminating

ICPCF298C Run and monitor sack and bag machines
ICPCF398C Set up in-line bottom making machine for sack or bag manufacture
ICPCF3100C Run and monitor in-line tube making machine for sack or bag manufacture
ICPPR313C Set up for basic flexographic printing
ICPSU211C Prepare ink and additives
ICPSU221C Pack and dispatch product
ICPSU241C Undertake warehouse or stores materials processing
ICPSU263C Perform basic industry calculations
ICPSU342C Undertake inventory procedures
ICPSU351C Undertake basic production scheduling
ICPSU352C Plan operational processes
ICPSU362C Communicate as part of a work team
ICPSU456C Control production
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAPMSUP390A Use structured problem solving tools

ICP30912 Certificate III in Printing and Graphic Arts (Cartons and Corrugating)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP30910 Certificate III in Printing and Graphic Arts (Cartons and Corrugating).</p>

Description

This qualification applies to individuals engaged in the paper converting area of the printing industry, specific to cartons and corrugating. They prepare materials and set up and run a range of equipment and machinery for cutting, embossing, folding, collating and fastening to produce the finished product. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Skilled hand
- Machinist
-

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP20810 Certificate II in Printing and Graphic Arts (Cartons)
- ICP20910 Certificate II in Printing and Graphic Arts (Corrugating).

Pathways from the qualification

At the completion of this qualification students could choose to enter a:

- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • reading and interpreting job specifications from job documentation or the production control system • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating production processes and shutting down machines in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • conducting a sample run of cartons and making adjustments to the machine to correct faults • identifying problems with flexographic machines and making adjustments and corrections • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • anticipating and rectifying production problems • monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • planning the set up for complex carton folding and gluing machines
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly • operating production processes according to the daily work schedule
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 19 units

4 core units *plus*

7 elective units from Group A *plus*

8 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

Up to **4 elective units** must be selected from Group B. The remaining elective units may be selected from Group B or Group C elective units.

Up to 4 elective units may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS2010A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPCF220C Produce basic converted or finished product

ICPCF3106C Set up machine for basic carton folding and gluing

ICPKN319C Apply knowledge and processes of converting paper-based products

ICPSU201C Prepare, load and unload reels and cores on and off machine* **OR**

ICPSU202C Prepare, load and unload product on and off machine*

ICPSU203C Prepare and maintain the work area

ICPSU224C Perform basic machine maintenance

ICPSU281C Use computer systems

ICPSU323C Dispose of waste

* Both of these units can be selected in this qualification, if the enterprise requires both.

Group B Elective Units

ICPCF341C Set up machine for complex sequenced or multiple folding

ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening

ICPCF392C Produce product on window gluer

ICPPP322C Digitise images for reproduction

ICPPP481C Design complex carton

ICPPR313C Set up for basic flexographic printing
ICPPR314C Produce basic flexographic printed product
ICPSU342C Undertake inventory procedures
ICPSU345C Purchase materials and schedule deliveries
ICPSU351C Undertake basic production scheduling
ICPSU362C Communicate as part of a work team
ICPSU381C Operate and maintain computer resources
ICPPR493C Set up and monitor in-line printing operations

Group C Elective Units

ICPPP281C Design basic carton
ICPCF321C Set up and produce complex guillotined product **OR**
ICPCF326C Undertake pre make-ready for die cutting **OR**
ICPCF225C Set up machine for complex flat-bed die cutting or embossing
ICPCF426C Produce complex flat-bed die cut or embossed product **OR**
ICPCF327C Set up machine for complex rotary die cutting or embossing
ICPCF328C Produce complex rotary die cut or embossed product **OR**
ICPCF3109C Produce complex folded and glued cartons
ICPCF410C Set up machine for complex carton folding and gluing **OR**
ICPCF320C Produce complex converted or finished product
ICPCF342C Produce complex sequenced or multiple folded product **OR**
ICPCF362C Produce complex adhesive, mechanical or sewn fastened product
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices

ICP31012 Certificate III in Printing and Graphic Arts (Mail House)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP31010 Certificate III in Printing and Graphic Arts (Mail House).</p>

Description

This qualification applies to individuals engaged in mail management services, such as direct marketing and transactional mailing. They are responsible for the preparation, set-up, monitoring and operation of various mailing house machinery and equipment. This qualification is focused on the skills required and applied in the set-up and operation of intelligent collating system used in the bulk mail distribution sector of the print industry. They may provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Mail processor
- Team leader

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP21010 Certificate II in Printing and Graphic Arts (Mail House).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • consulting with customers about identification of requirements when scheduling deliveries • documenting consumables used when maintaining small machines for reordering purposes • reading and interpreting job requirements
Teamwork	<ul style="list-style-type: none"> • notifying the supervisor if there are discrepancies or if the job does not reconcile • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • identifying, separating and reprocessing mail that is damaged, underpaid or non-conforming • monitoring production quality and making minor adjustments to processes
Initiative and enterprise	<ul style="list-style-type: none"> • identifying improvements to own work plan • negotiating solutions to allow implementation of process improvements
Planning and organising	<ul style="list-style-type: none"> • accurately and efficiently organising mail and parcels into groups • organising appropriate equipment for transferring materials • selecting tools and planning for basic machine maintenance
Self-management	<ul style="list-style-type: none"> • confirming own and team work priorities • following legal requirements and workplace policy and procedures in relation to the security of mail • following procedures and using personal protective equipment correctly
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions • providing one-to-one instruction about processes and set-up and operation of equipment and machinery
Technology	<ul style="list-style-type: none"> • using information technology, such as computer hardware and software to access data from files • using barcode equipment to reconcile outputs • using computerised control, monitoring and data entry systems

Packaging Rules

Total number of units = 19 units

4 core units *plus*

8 elective units from Group A *plus*

7 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

3 elective units must be selected from the Group B elective units listed below.

Up to **4 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPKN318C Apply knowledge and requirements of mail house operations

ICPSU202C Prepare, load and unload product on and off machine

ICPSU203C Prepare and maintain the work area

ICPSU224C Perform basic machine maintenance

ICPSU225C Perform small machine maintenance **OR**

ICPSU243C Reconcile process outputs

ICPSU351C Undertake basic production scheduling

ICPSU352C Plan operational processes

ICPSU362C Work team communication

TLIA2041A Manually sort mail and parcels

Group B Elective Units

ICAWEB429A Create a markup language document to specification

ICPCF294C Set up profile cutting for envelope manufacture

ICPCF326C Undertake pre make-ready for die cutting

ICPCF327C Set up machine for complex rotary die cutting or embossing

ICPCF341C Set up machine for complex sequenced or multiple folding

ICPCF342C Produce complex sequenced or multiple folded product

ICPCF396C Set up in-line scoring, folding and gluing machine for envelope manufacture
ICPCF3103C Run and monitor envelope manufacturing machines
ICPCF406C Set up and load in-line smart card machine
ICPCF407C Operate a smart card machine and pack product
ICPPP385C Operate a database for digital printing
ICPPR393A Set up for basic relief printing
ICPPR282C Produce and manage basic digital print
ICPPR288A Produce basic relief printed product
ICPPR383C Prepare for personalised digital printing
ICPPR384A Set up and produce basic digital print
ICPPR484C Prepare for variable data printing
ICPSU211C Prepare ink and additives
ICPSU212C Prepare coatings, adhesives
ICPSU235C Lift loads mechanically
ICPSU236C Shift loads mechanically
ICPSU271C Provide basic instruction for a task
ICPSU321C Pack and dispatch (advanced)
ICPSU342C Undertake inventory procedures
ICPSU345C Purchase materials and schedule deliveries
ICPSU381C Operate and maintain computer resources
ICPSU487C Analyse manual handling processes
ICPSU488C Ensure process improvements are sustained
ICPSU554C Manage teams
MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture)

Modification History

Release	Comments
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Core unit 'BSBSUS301A Implement and monitor environmentally sustainable work practices' replaced with 'BSBSUS201A Participate in environmentally sustainable work practices', and native and imported units updated.</p> <p>Replaces ICP31110 Certificate III in Printing and Graphic Arts (Ink Manufacture).</p>

Description

This qualification applies to skilled operators engaged in the ink manufacturing sector of the printing industry. They apply a range of competencies, using some discretion and judgement and relevant theoretical knowledge. They undertake appropriate testing procedures for each stage of product manufacture, evaluate and implement improvements. They may also provide guidance to others with some limited responsibility for the output of others.

Job Roles

- Ink mixer

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP20110 Certificate II in Printing and Graphic Arts (General)
- ICP21110 Certificate II in Printing and Graphic Arts (Ink Manufacture).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • reading and interpreting job specifications from job documentation or the production control system • using printing industry terminology and vocabulary correctly and accurately
Teamwork	<ul style="list-style-type: none"> • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • monitoring production quality and making minor adjustments to processes • monitoring variation of inks against quality standards and taking corrective action to rectify any problems
Initiative and enterprise	<ul style="list-style-type: none"> • monitoring trends in the printing industry to inform personal work practices
Planning and organising	<ul style="list-style-type: none"> • preparing the production schedule according to production, inventory, procurements, time constraints and supply capacities and requirements • selecting and preparing equipment for manufacture and quality testing of inks
Self-management	<ul style="list-style-type: none"> • following procedures and using personal protective equipment correctly • maintaining security and confidentiality of client and enterprise data and information
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • selecting and using laboratory testing equipment and techniques to test the quality of inks • using computerised control, monitoring and data entry systems • using information technology, such as computer hardware and software to access data from files

Packaging Rules

Total number of units = 19 units

4 core units *plus*

6 elective units from Group A *plus*

9 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

5 elective units must be selected from the Group B elective units listed below.

Up to **4 Group B elective units** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS201A Participate in environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPIM211C Select and prepare materials for production

ICPIM221C Blend chemicals

ICPIM331C Manufacture inks and coatings

ICPKN317C Apply knowledge and requirements of the ink manufacturing sector

ICPPP430C Manage colour

ICPSU203C Prepare and maintain the work area

ICPSU263C Perform basic industry calculations

Group B Elective Units

ICPSU271C Provide basic instruction for a task

ICPSU321C Pack and dispatch (advanced)

ICPSU342C Undertake inventory procedures

ICPSU345C Purchase materials and schedule deliveries

ICPSU351C Undertake basic production scheduling

ICPSU362C Communicate as part of a work team

ICPSU381C Operate and maintain computer resources

ICPSU417C Perform laboratory quality tests of materials and finished product

ICPSU554C Manage teams

MSACMC210A Manage the impact of change on own work
MSACMS200A Apply competitive manufacturing practices
MSACMS201A Sustain process improvements
MSACMT230A Apply cost factors to work practices
MSACMT240A Apply 5S procedures in a manufacturing environment
MSACMT280A Undertake root cause analysis
MSAENV272B Participate in environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
MSL933001A Maintain the laboratory/field workplace fit for purpose
MSL954001A Obtain representative samples in accordance with sampling plan
MSL973001A Perform basic tests
MSL973002A Prepare working solutions
MSL974001A Prepare, standardise and use solutions

ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals working in the graphic pre-press sector of the printing and graphic arts industry. They design layouts and assemble text and graphics into page formats for printing, apply solutions to a defined range of problems associated with the reproduction of images for the print medium and analyse and evaluate information from a variety of sources. They may also take responsibility for production flow and provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Pre-press technician
- Production controller

Pathways Information

Pathways into the qualification

The completion of all units of competency (core and electives) necessary for the award of ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press), or equivalent vocational competencies.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP50110 Diploma of Printing and Graphic Arts (Digital Production)
- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)
- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPMM492D Create an extensible style sheet	ICAWEB429A Create a markup language document to specification
ICPPP411C Undertake a complex design brief	ICPPP311C Develop a detailed design concept.
ICPPP421C Compose and evaluate typography	ICPPP221C Select and apply type
ICPPP485C Develop a digital data template	ICPPP385C Operate a database for digital printing

Entry Requirements

This qualification requires the completion of all units of competency (core and electives) necessary for the award of ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press), or equivalent vocational competencies.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • conveying and handling information • giving and following simple instructions • participating in work teams and consulting with clients about printing specifications
Teamwork	<ul style="list-style-type: none"> • consulting with designers, printers and clients to ensure production and final user requirements have been met
Problem solving	<ul style="list-style-type: none"> • identifying hazards and reporting them • tuning and adjusting machinery to ensure highest quality and yield • selecting production criteria to ensure client needs are met • evaluating and proofing own work
Initiative and enterprise	<ul style="list-style-type: none"> • finding information from a variety of sources • suggesting improvements and experimenting with materials to extend their use and meet efficiency targets • transferring skills to new environments
Planning and organising	<ul style="list-style-type: none"> • determining a plan of action to ensure deadlines are met • organising information clearly, concisely and logically
Self-management	<ul style="list-style-type: none"> • showing leadership in the resolution of problems • using discretion and confidentiality when dealing with clients • using personal protective equipment • using time efficiently to met production schedules and deadlines
Learning	<ul style="list-style-type: none"> • giving instructions that are accurate, clear, concise, comprehensive and consistent with the skills of the receiver • providing technical advice
Technology	<ul style="list-style-type: none"> • selecting and using special purpose tools, equipment and industry software packages • tuning and adjusting machinery

Packaging Rules

Total number of units = 10 units
8 elective units from Group A *plus*
2 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

The **2 Group B elective unit** may be selected from the remaining elective units or from qualifications at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Group A Elective Units

AUM4012A Apply quality assurance techniques
ICPPP252C Output images
ICPPP311C Develop a detailed design concept
ICPPP352C Output complex images
ICPPP421C Compose and evaluate typography
ICPPP430C Manage colour
ICPPP435C Generate complex imposition
ICPPP484C Set up and operate automated workflow
ICPPR387A Use colour management for production

Group B Elective Units

BSBCUS401B Coordinate implementation of customer service strategies
BSBMGT402A Implement operational plan
BSBSUS501A Develop workplace policy and procedures for sustainability
BSBWOR402A Promote team effectiveness
ICAWEB409A Develop cascading style sheets
ICPMM321C Capture a digital image
ICPMM322C Edit a digital image
ICPMM492D Create an extensible style sheet
ICPPP221C Select and apply type
ICPPP385C Operate a database for digital printing
ICPPP411C Undertake a complex design brief
ICPPP422C Digitise complex images for reproduction
ICPPP452C Output complex images direct to plate or press
ICPPP485C Develop a digital data template
ICPPR484C Prepare for variable data printing
ICPSU482C Troubleshoot and optimise materials and machinery
MSACMC410A Lead change in a manufacturing environment

MSACMT440A Lead 5S in a manufacturing environment

MSAENV472B Implement and monitor environmentally sustainable work practices

MSAPMSUP390A Use structured problem solving tools

ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals working in the multimedia sector of the printing and graphic arts industry. They apply solutions to a defined range of unpredictable problems, and analyse and evaluate information. They design and author multimedia information, create electronic documents, manipulate databases and information systems and may provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Multimedia developer
- Multimedia technician
- Website designer
- Content developer
- Web publisher
- Electronic publisher

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is:

- ICP30312 Certificate III in Printing and Graphic Arts (Multimedia).

Pathways from the qualification

At the completion of this qualification students could choose to enter a:

- ICP50210 Diploma of Printing and Graphic Arts (Multimedia)
- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)
- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPMM491D Create an extensible document	ICAWEB429A Create a markup language document to specification
ICPMM492D Create an extensible style sheet	ICAWEB429A Create a markup language document to specification
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display
ICPPP485C Develop a digital data template	ICPPP385C Operate a database for digital printing
ICPPP494C Develop document content and structure	ICPPP396A Generate high-end PDF files
CUFANM401A Prepare 3D digital models for production	CUFANM303A Create 3D digital models

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • conveying and handling information • giving and following simple instructions • participating in work teams and consulting with clients about printing specifications
Teamwork	<ul style="list-style-type: none"> • consulting with designers, printers and clients to ensure production and final user requirements have been met
Problem solving	<ul style="list-style-type: none"> • identifying hazards and reporting them • tuning and adjusting machinery to ensure highest quality and yield • selecting production criteria to ensure client needs are met • evaluating and proofing own work
Initiative and enterprise	<ul style="list-style-type: none"> • finding information from a variety of sources • suggesting improvements and experimenting with materials to extend their use and meet efficiency targets • transferring skills to new environments
Planning and organising	<ul style="list-style-type: none"> • determining a plan of action to ensure deadlines are met • organising information clearly, concisely and logically
Self-management	<ul style="list-style-type: none"> • showing leadership in the resolution of problems • using discretion and confidentiality when dealing with clients • using personal protective equipment • using time efficiently to meet production schedules and deadlines
Learning	<ul style="list-style-type: none"> • giving instructions that are accurate, clear, concise, comprehensive and consistent with the skills of the receiver • providing technical advice
Technology	<ul style="list-style-type: none"> • selecting and using special purpose tools, equipment and industry software packages • tuning and adjusting machinery

Packaging Rules

Total number of units = 26 units

4 core units *plus*

13 elective units from Group A *plus*

9 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

6 elective units must be selected from the Group B elective units listed below.

Up to **4 Group B elective units** may be selected from the remaining elective units, or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS301A Implement and monitor environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBMGT402A Implement operational plan

CUFDIG304A Create visual design components

CUFDIG501A Coordinate the testing of interactive media products

ICAWEB502A Create dynamic web pages

ICPMM263C Access and use the Internet

ICPPP211C Develop a basic design concept

ICPPP221C Select and apply type

ICPPP224C Produce pages using a page layout application

ICPPP225C Produce graphics using a graphics application

ICPPP284B Produce PDF files for online or screen display

ICPPP334C Prepare an imposition format for printing processes

ICPPP396A Generate high-end PDF files

ICPPP435C Generate complex imposition

ICPPP484C Set up and operate automated workflow

Group B Elective Units

BSBCUS401B Coordinate implementation of customer service strategies

BSBIPR601A Develop and implement strategies for intellectual property management

BSBMGT403A Implement continuous improvement
BSBREL402A Build client relationships and business networks
BSBSUS501A Develop workplace policy and procedures for sustainability
BSBWOR402A Promote team effectiveness
BSBWOR404B Develop work priorities
BSBWOR501B Manage personal work priorities and professional development
CUFCMP301A Implement copyright arrangements
CUFANM302A Create 3D digital animations
CUFANM303A Create 3D digital models
CUFANM401A Prepare 3D digital models for production
CUFDIG304A Create visual design components
CUFDIG401A Author interactive media
CUFDIG403A Create user interfaces
CUFDIG503A Design e-learning resources
CUFDIG504A Design games
CUFDIG505A Design information architecture
ICADBS504A Integrate database with a website
ICANWK414A Create a common gateway interface script
ICAWEB419A Develop guidelines for uploading information to a website
ICAWEB429A Create a markup language document to specification
ICAWEB510A Analyse information and assign meta-tags
ICPKN315C Apply knowledge and requirements of the multimedia sector
ICPMM491D Create an extensible document
ICPMM492D Create an extensible style sheet
ICPPP252C Output images
ICPPP352C Output complex images
ICPPP385C Operate a database for digital printing
ICPPP485C Develop a digital data template
ICPPP494C Develop document content and structure
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools

ICP40310 Certificate IV in Printing and Graphic Arts (Printing)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals working as a print machinist in the printing and graphic arts industry. They prepare material, set up, monitor and operate equipment and machinery, apply solutions to a defined range of problems associated with the print medium and analyse and evaluate information from a variety of sources. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Print machinist (technician)

Pathways Information

Pathways into the qualification

Candidates may enter the qualification after they have completed all units of competency (core and electives) necessary for the award of ICP30512 Certificate III in Printing and Graphic Arts (Printing), or equivalent vocational competencies.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP50310 Diploma of Printing and Graphic Arts (Printing)
- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)
- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP311C Develop a detailed design concept	ICPPP211C Develop a basic design concept
ICPPR387A Use colour management for production	ICPPR284A Introduction to colour management
ICPPP452C Output complex image direct to plate or press	ICPPP352C Output complex images
ICPPP485C Develop a digital data template	ICPPP385C Operate a database for digital printing
ICPPR494A Apply advanced software applications to digital production	ICPPR385A Apply software applications to digital production
ICPPR495A Set up and use complex colour management for production	ICPPR387A Use colour management for production

Entry Requirements

This qualification requires the completion of all units of competency (core and electives) necessary for the award of ICP30512 Certificate III in Printing and Graphic Arts (Printing), or equivalent vocational competencies.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • reading and interpreting job requirements from the job documentation or production control system • interpreting job briefs and advising clients about options and limitations
Teamwork	<ul style="list-style-type: none"> • assisting in setting up major in-line printing/converting/binding units • working with team members to ensure efficient production
Problem solving	<ul style="list-style-type: none"> • conducting a proof run and adjusting machinery settings to ensure production speeds are attained • monitoring print quality electronically and visually and making adjustments
Initiative and enterprise	<ul style="list-style-type: none"> • contributing to decision making of the work group
Planning and organising	<ul style="list-style-type: none"> • organising quick change over procedures • planning the set up to minimise time and wastage
Self-management	<ul style="list-style-type: none"> • using courteous, effective, responsive and supportive communication in workplace interactions • using discretion and confidentiality when dealing with clients
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • setting up and monitoring production equipment • using monitoring equipment and computerised production records

Packaging Rules

Total number of units = 10 units

4 core units *plus*

6 elective units.

At least **1 elective unit** must be selected from Group A elective units and at least **1 elective unit** must be selected from Group B elective units. The remaining elective units may be selected from Group A, Group B or Group C elective units.

Up to **2 elective units** may be selected from the remaining elective units, the remaining stream units or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

ICPPR491C Use on-press monitoring of print quality

ICPPR492C Use on-press print control devices

ICPPR493C Set up and monitor in-line printing operations

ICPSU482C Troubleshoot and optimise materials and machinery

Group A Elective Units

ICPPR284A Introduction to colour management

ICPPR385A Apply software applications to digital production

ICPPR387A Use colour management for production

ICPPR413C Set up for complex flexographic printing

ICPPR421C Set up for complex gravure printing

ICPPR431C Set up for complex lithographic printing

ICPPR441C Set up for complex pad printing

ICPPR451C Set up for complex relief printing

ICPPR496A Set up and produce complex digital print

Group B Elective Units

ICPPR414C Produce specialist flexographic printed product

ICPPR513C Set up for specialist flexographic printing **OR**

ICPPR422C Produce specialist gravure printed product

ICPPR521C Set up for specialist gravure printing **OR**

ICPPR432C Produce specialist lithographic printed product

ICPPR531C Set up for specialist lithographic printing **OR**

ICPPR442C Produce specialist pad printed product

ICPPR541C Set up for specialist pad printing **OR**

ICPPR452C Produce specialist relief printed product

ICPPR551C Set up for specialist relief printing **OR**
ICPPR484C Prepare for variable data printing
ICPPR494A Apply advanced software applications to digital production
ICPPR495A Set up and use complex colour management for production

Group C Elective Units

BSBCUS401B Coordinate implementation of customer service strategies
BSBMGT402A Implement operational plan
BSBSUS501A Develop workplace policy and procedures for sustainability
BSBWOR402A Promote team effectiveness
ICPPP211C Develop a basic design concept
ICPPP311C Develop a detailed design concept
ICPPP334C Prepare an imposition format for printing processes
ICPPP385C Operate a database for digital printing
ICPPP452C Output complex images direct to plate or press
ICPPP484C Set up and operate automated workflow
ICPPP485C Develop a digital data template
ICPPR411C Mount and proof flexographic plates for complex printing
ICPPR471C Set up for complex coating
ICPPR472C Produce complex coated product
ICPPR484C Prepare variable data for digital printing
ICPSU389C Undertake basic root cause analysis
ICPSU464C Provide customer service and education
ICPSU485C Implement a just-in-time (JIT) system
ICPSU486C Mistake proof a production process
ICPSU487C Analyse manual handling processes
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals working as a binder and finisher in the printing and graphic arts industry. They apply solutions to a defined range of problems, and analyse and evaluate information from a variety of sources. They may provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Binder and finisher (technician)

Pathways Information

Pathways into the qualification

Candidates may enter this qualification after they have completed all units of competency (core and electives) necessary for the award of ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing), or equivalent vocational competencies.

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)
- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPR496A Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

This qualification requires the completion of all units of competency (core and electives) necessary for the award of ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing), or equivalent vocational competencies.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • discussing book restoration treatment options with book owners • interpreting implicit and explicit requirements of the job brief
Teamwork	<ul style="list-style-type: none"> • operating production processes in association with fellow workers
Problem solving	<ul style="list-style-type: none"> • conducting a proof run and adjusting machinery settings to ensure production speeds are attained • evaluating book restoration ethical/rarity/value cost alternatives
Initiative and enterprise	<ul style="list-style-type: none"> • contributing to decision making of the work group • identifying and applying skills and knowledge to a wide variety of printing problems
Planning and organising	<ul style="list-style-type: none"> • assembling materials for binding books • planning for the shutdown of production processes
Self-management	<ul style="list-style-type: none"> • using courteous, effective, responsive and supportive communication in workplace interactions • using time efficiently to meet production schedules and timelines
Learning	<ul style="list-style-type: none"> • giving and following simple routine instructions
Technology	<ul style="list-style-type: none"> • setting up and using printing equipment and electronic monitoring systems

Packaging Rules

Total number of units = 8 units

3 core units *plus*

5 elective units.

3 elective units must be selected from the list below.

Up to **2 elective units** may be selected from the remaining elective units or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

ICPCF391C Use electronic monitoring systems (converting and finishing)

ICPSU482C Troubleshoot and optimise materials and machinery

ICPSU487C Analyse manual handling processes

Elective Units

BSBCUS401B Coordinate implementation of customer service strategies

BSBMGT402A Implement operational plan

BSBMGT403A Implement continuous improvement

BSBSUS501A Develop workplace policy and procedures for sustainability

BSBWOR402A Promote team effectiveness

BSBWOR404B Develop work priorities

ICPCF3103C Run and monitor envelope manufacturing machines

ICPCF406C Set up and load in-line smart card machine

ICPCF407C Operate a smart card machine and pack product

ICPCF465C Set up and produce hand-bound book

ICPCF467C Restore books

ICPPP430C Manage colour

ICPPP484C Set up and operate automated workflow

ICPPR384A Set up and produce basic digital print

ICPPR491C Use on-press monitoring of print quality

ICPPR492C Use on-press print control devices

ICPPR493C Set up and monitor in-line printing operations

ICPPR496A Set up and produce complex digital print

ICPSU216C Inspect quality against required standards

ICPSU456C Control production

ICPSU458C Monitor production workflow

ICPSU464C Provide customer service and education

ICPSU485C Implement a just-in-time (JIT) system

ICPSU486C Mistake proof a production process

ICPSU488C Ensure process improvements are sustained
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p> <p>Group A elective unit ICPKN313C replaced with ICPKN318C.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals engaged in production coordination in the mail house sector of the printing and graphic arts industry. They apply solutions to a defined range of problems, and analyse and evaluate information from a variety of sources. They may provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Production/process scheduler
- Team/production supervisor

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is:

- ICP31010 Certificate III in Printing and Graphic Arts (Mail House).

Pathways from the qualification

At the completion of this qualification students could choose to enter a:

- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)
- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPR496A Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • reading and interpreting job requirements from the job documentation or production control system
Teamwork	<ul style="list-style-type: none"> • maintaining the production process in association with others
Problem solving	<ul style="list-style-type: none"> • monitoring production work flow, anticipating problems and addressing them early • troubleshooting and optimising materials and machinery
Initiative and enterprise	<ul style="list-style-type: none"> • identifying opportunities for improvement when monitoring production processes
Planning and organising	<ul style="list-style-type: none"> • ensuring materials for envelope manufacture are checked and available • contributing to the development of the operational plan • planning the set-up to minimise time and wastage
Self-management	<ul style="list-style-type: none"> • using courteous, effective, responsive and supportive communication in work place interactions • using discretion and confidentiality when dealing with customers
Learning	<ul style="list-style-type: none"> • obtaining feedback on customer satisfaction on an ongoing basis • providing training through instruction and the demonstration of work skills
Technology	<ul style="list-style-type: none"> • selecting and using special purpose tools, equipment and machinery for the printing industry • using technology to assist with the management of information

Packaging Rules

Total number of units = 25 units
4 core units *plus*
9 elective units from Group A *plus*
12 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units and **2 elective units** from Group C elective units.

Up to **4 elective units** may be selected from the remaining elective units or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS301A Implement and monitor environmentally sustainable work practices
ICPSU216C Inspect quality against required standards
ICPSU260C Maintain a safe work environment
ICPSU262C Communicate in the workplace

Group A Elective Units

BSBCUS401B Coordinate implementation of customer service strategies
ICPCF391C Use electronic monitoring systems (converting and finishing)
ICPKN318C Apply knowledge and requirements of mail house operations
ICPSU202C Prepare, load and unload product on and off machine
ICPSU203C Prepare and maintain the work area
ICPSU216C Inspect quality against required standards
ICPSU224C Perform basic machine maintenance
ICPSU225C Perform small machine maintenance
ICPSU243C Reconcile process outputs
ICPSU458C Monitor production workflow
ICPSU482C Troubleshoot and optimise materials and machinery
ICPSU487C Analyse manual handling processes
TLIA2041A Manually sort mail and parcels

Group B Elective Units

BSBMGT402A Implement operational plan
BSBMGT403A Implement continuous improvement

BSBWOR402A Promote team effectiveness
BSBWOR404B Develop work priorities
ICPSU464C Provide customer service and education
ICPSU482C Troubleshoot and optimise materials and machinery
ICPSU485C Implement a just-in-time (JIT) system
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

Group C Elective Units

BSBINN301A Promote innovation in a team environment
ICPCF3103C Run and monitor envelope manufacturing machines
ICPCF341C Set up machine for complex sequenced or multiple folding
ICPCF343C Set up machine for complex collating or inserting (sheet/section/reel)
ICPCF391C Use electronic monitoring systems (converting and finishing)
ICPCF392C Produce product on window gluer
ICPCF393C Set up machine for envelope manufacture
ICPCF395C Set up and operate folder gluer machine
ICPCF396C Set up in-line scoring, folding and gluing machine for envelope manufacture
ICPCF406C Set up and load in-line smart card machine
ICPPP385C Operate a database for digital printing
ICPPR382C Produce and manage complex digital print
ICPPR384A Set up and produce basic digital print
ICPPR496A Set up and produce complex digital print
ICPSU342C Undertake inventory procedures
ICPSU351C Undertake basic production scheduling
ICPSU352C Plan operational processes
ICPSU357C Apply quick changeover procedures
ICPSU389C Undertake basic root cause analysis
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who use well developed sales skills in the printing and graphic arts industry. They apply solutions to a defined range of problems, and analyse and evaluate information from a variety of sources. They may provide leadership and guidance to others and have limited responsibility for the output of others, however they typically report to a more senior sales practitioner.

Job Roles

- Supervisor, administration and sales

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP30112 Certificate III in Printing and Graphic Arts (Graphic Design Production)
- ICP30212 Certificate III in Printing and Graphic Arts (Graphic Pre-press)
- ICP30412 Certificate III in Printing and Graphic Arts (Digital Printing)
- ICP30512 Certificate III in Printing and Graphic Arts (Printing)
- ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing)
- ICP31012 Certificate III in Printing and Graphic Arts (Mail House)
- ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP50410 Diploma of Printing and Graphic Arts (Management/Sales).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • accurately use correct printing industry terminology and vocabulary • using negotiation skills to encourage positive outcomes from business networks
Teamwork	<ul style="list-style-type: none"> • developing and implementing customer consultation processes with employees • supervising and scheduling the work of team members
Problem solving	<ul style="list-style-type: none"> • adjusting costing based on discrepancies between estimated and actual costing • analysing costs and timelines of promotional activities to evaluate the benefits
Initiative and enterprise	<ul style="list-style-type: none"> • continuously evaluating processes and recommending changes for improvement
Planning and organising	<ul style="list-style-type: none"> • planning and acquiring resources to implement the operational plan • planning and scheduling promotional activities • undertaking business planning
Self-management	<ul style="list-style-type: none"> • adjusting own interpersonal style and methods to suit different situations • treating people with integrity, respect and empathy to develop trust and confidence
Learning	<ul style="list-style-type: none"> • acquiring knowledge of printing industry products from various sources of information • maintaining personal knowledge and skills by participating in business networks
Technology	<ul style="list-style-type: none"> • using technology to assist with the management of information

Packaging Rules

Total number of units = 19 units
4 core units *plus*
5 elective units from Group A *plus*
10 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

3 elective units must be selected from Group B elective units and **3 elective units** must be selected from Group C elective units.

Up to **4 elective units** may be selected from the remaining elective units or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS301A Implement and monitor environmentally sustainable work practices
ICPSU216C Inspect quality against required standards
ICPSU260C Maintain a safe work environment
ICPSU262C Communicate in the workplace

Group A Elective Units

BSBMGT402A Implement operational plan
ICPSU345C Purchase materials and schedule deliveries
ICPSU455C Supervise and schedule work of others
ICPSU458C Monitor production workflow
ICPSU464C Provide customer service and education
ICPSU553C Prepare production costing estimates

Group B Elective Units

ICPKN311C Apply knowledge of the graphic pre-press sector
ICPKN312C Apply knowledge of printing machining
ICPKN313C Apply knowledge and requirements of the converting, binding and finishing sector
ICPKN314C Apply knowledge and requirements of the screen printing sector
ICPKN315C Apply knowledge and requirements of the multimedia sector
ICPKN316C Apply knowledge and requirements of paper and printing processes
ICPKN317C Apply knowledge and requirements of the ink manufacturing sector
ICPKN318C Apply knowledge and requirements of mail house operations

ICPKN319C Apply knowledge and processes of converting paper-based products
ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry

Group C Elective Units

BSBMKG413A Promote products and services
BSBPRO401A Develop product knowledge
BSBREL401A Establish networks
BSBREL402A Build client relationships and business networks
BSBSLS407B Identify and plan sales prospects
BSBSLS408B Present, secure and support sales solutions
BSBWOR402A Promote team effectiveness
BSBWOR404B Develop work priorities
ICPPP430C Manage colour
ICPPP484C Set up and operate automated workflow
ICPPR491C Use on-press monitoring of print quality
ICPPR492C Use on-press print control devices
ICPPR493C Set up and monitor in-line printing operations
ICPSU458C Monitor production workflow
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals engaged in production coordination in various sectors of the printing and graphic arts industry, who use well-developed skills and a broad knowledge base in a wide variety of contexts. They apply solutions to a defined range of problems, and analyse and evaluate information from a variety of sources. They provide leadership and guidance to others with some limited responsibility for the output of others.

Job Roles

- Production coordinator
- Production controller

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP30512 Certificate III in Printing and Graphic Arts (Printing)
- ICP30612 Certificate III in Printing and Graphic Arts (Screen Printing)
- ICP30712 Certificate III in Printing and Graphic Arts (Print Finishing)
- ICP30812 Certificate III in Printing and Graphic Arts (Sacks and Bags)
- ICP30912 Certificate III in Printing and Graphic Arts (Cartons and Corrugating)
- ICP31012 Certificate III in Printing and Graphic Arts (Mail House)
- ICP31112 Certificate III in Printing and Graphic Arts (Ink Manufacture).

Pathways from the qualification

At the completion of this qualification candidates could choose to enter a:

- ICP50510 Diploma of Printing and Graphic Arts (Process Improvement).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • communicating changes to production to workers in a logical and easily understood manner • establishing and maintaining effective oral and written channels between staff and management
Teamwork	<ul style="list-style-type: none"> • establishing effective goals for work teams and monitoring performance • maintaining the production process in association with others
Problem solving	<ul style="list-style-type: none"> • checking quality standards, time taken and wastage to ensure production efficiency is maintained
Initiative and enterprise	<ul style="list-style-type: none"> • seeking and acting on feedback from clients and colleagues
Planning and organising	<ul style="list-style-type: none"> • developing work priorities • organising operations, staff and production processes
Self-management	<ul style="list-style-type: none"> • assessing own skills and knowledge to determine development needs and priorities • using courteous, effective, responsive and supportive communication in workplace interactions
Learning	<ul style="list-style-type: none"> • accessing and completing opportunities to facilitate continuous learning and career development • providing training through instruction and demonstration of work skills to team members
Technology	<ul style="list-style-type: none"> • selecting and using special purpose tools, equipment and industry software packages • using business technology to manage and monitor planning and scheduling of tasks

Packaging Rules

Total number of units = 19 units

4 core units *plus*

4 elective units from Group A *plus*

11 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group C elective units listed below.

2 elective units only must be selected from Group B elective units. The remaining elective units must be taken from Group C elective units.

Up to **3 elective units** may be selected from the remaining elective units, or from other qualifications, at the same qualification level or one level higher, in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS301A Implement and monitor environmentally sustainable work practices

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

ICPSU455C Supervise and schedule work of others

ICPSU458C Monitor production workflow

ICPSU482C Troubleshoot and optimise materials and machinery

ICPSU487C Analyse manual handling processes

ICPPP484C Set up and operate automated workflow

Group B Elective Units

ICPKN311C Apply knowledge of the graphic pre-press sector

ICPKN312C Apply knowledge of printing machining

ICPKN313C Apply knowledge and requirements of the converting, binding and finishing sector

ICPKN314C Apply knowledge and requirements of the screen printing sector

ICPKN315C Apply knowledge and requirements of the multimedia sector

ICPKN316C Apply knowledge and requirements of paper and printing processes

ICPKN317C Apply knowledge and requirements of the ink manufacturing sector

ICPKN318C Apply knowledge and requirements of mail house operations

ICPKN319C Apply knowledge and processes of converting paper-based products

ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry

Group C Elective Units

BSBCUS401B Coordinate implementation of customer service strategies

BSBMGT402A Implement operational plan

BSBMGT403A Implement continuous improvement

BSBWOR402A Promote team effectiveness

BSBWOR404B Develop work priorities

ICPCF391C Use electronic monitoring systems (converting and finishing)

ICPPP430C Manage colour

ICPPR491C Use on-press monitoring of print quality

ICPPR492C Use on-press print control devices

ICPPR493C Set up and monitor in-line printing operations

ICPSU345C Purchase materials and schedule deliveries

ICPSU351C Undertake basic production scheduling

ICPSU389C Undertake basic root cause analysis

ICPSU456C Control production

ICPSU464C Provide customer service and education

ICPSU485C Implement a just-in-time (JIT) system

ICPSU486C Mistake proof a production process

ICPSU488C Ensure process improvements are sustained

MSACMC410A Lead change in a manufacturing environment

MSACMT440A Lead 5S in a manufacturing environment

MSAENV472B Implement and monitor environmentally sustainable work practices

MSAPMSUP390A Use structured problem solving tools

TAEASS402B Assess competence

TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP50110 Diploma of Printing and Graphic Arts (Digital Production)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who possess a sound theoretical knowledge in and are responsible for digital production workflow. They analyse and evaluate information from a variety of sources and are involved in planning, scheduling and the supervision of labour, machines, and materials for digital production. They provide leadership and guidance to others with responsibility for the output of others.

Job Roles

- Production controller

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is:

- ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPMM491D Create an extensible document	ICAWEB429A Create a markup language document to specification
ICPMM492D Create an extensible style sheet	ICAWEB429A Create a markup language document to specification
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display
ICPPP452C Output complex image direct to plate or press	ICPPP352C Output complex images
ICPPP485C Develop a digital data template	ICPPP385C Operate a database for digital printing
ICPPR496A Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • consulting with staff and documenting recommendations to increase efficiency • interpreting the design brief and clarifying it with the client
Teamwork	<ul style="list-style-type: none"> • maintaining the production sequence in association with others • obtaining feedback from production workers
Problem solving	<ul style="list-style-type: none"> • adjusting costings based on discrepancies between the estimated and actual costings
Initiative and enterprise	<ul style="list-style-type: none"> • continuously evaluating production processes and recommending changes to make efficiency gains
Planning and organising	<ul style="list-style-type: none"> • ensuring the scan procedure is in the right sequence • matching the constraints of production to the design brief • setting up and operating automated workflow
Self-management	<ul style="list-style-type: none"> • communicating in a logical and easily understood manner • using discretion and confidentiality when dealing with clients
Learning	<ul style="list-style-type: none"> • consulting with staff and documenting recommendations to increase efficiency • interpreting the design brief and clarifying it with the client
Technology	<ul style="list-style-type: none"> • maintaining the production sequence in association with others • obtaining feedback from production workers

Packaging Rules

Total number of units = 21 units

4 core units *plus*

10 elective units from Group A *plus*

7 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from other qualifications at the same qualification level or one level higher in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBCUS501C Manage quality customer service

ICAWEB429A Create a markup language document to specification

ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry **OR**

ICPKN321A Apply knowledge and requirements of digital production

ICPPP322C Digitise images for reproduction

ICPPP352C Output complex images

ICPPP385C Operate a database for digital printing

ICPPR496A Set up and produce complex digital print

ICPPP484C Set up and operate automated workflow

ICPPP485C Develop a digital data template

ICPPR484C Prepare for variable data printing

ICPPR552A Manage digital production workflow

ICPSU351C Undertake basic production scheduling

ICPSU553C Prepare production costing estimates

ICPSU583C Troubleshoot and optimise production processes

MSACMT621A Develop a just-in-time (JIT) system

Group B Elective Units

BSBMGT516C Facilitate continuous improvement
BSBSMB402A Plan small business finances
BSBSMB404A Undertake small business planning
BSBSUS501A Develop workplace policy and procedures for sustainability
ICPCF381C Set up machine for complex laminating
ICPCF382C Produce complex laminated product
ICPCF391C Use electronic monitoring systems (converting and finishing)
ICPMM491D Create an extensible document
ICPMM492D Create an extensible style sheet
ICPPP284B Produce PDF files for online or screen display
ICPPP334C Prepare an imposition format for printing processes
ICPPP370C Make multiple image plates
ICPPP385C Operate a database for digital printing
ICPPP396A Generate high-end PDF files
ICPPP397A Transfer digital files
ICPPP422C Digitise complex images for reproduction
ICPPP430C Manage colour
ICPPP435C Generate complex imposition
ICPPP452C Output complex images direct to plate or press
ICPPP484C Set up and operate automated workflow
ICPPR382C Produce and manage complex digital print
ICPPR383C Prepare for personalised digital printing
ICPPR384A Set up and produce basic digital print
ICPPR471C Set up for complex coating
ICPPR472C Produce complex coated product
ICPPR491C Use on-press monitoring of print quality
ICPPR492C Use on-press print control devices
ICPPR493C Set up and monitor in-line printing operations
ICPSP351C Prepare machine and drying/curing unit
ICPSP374C Operate a semi-automatic screen printing machine
ICPSP382C Produce computer image for screen printing
ICPSU216C Inspect quality against required standards
ICPSU351C Undertake basic production scheduling
ICPSU455C Supervise and schedule work of others
ICPSU458C Monitor production workflow
ICPSU485C Implement a just-in-time (JIT) system
ICPSU488C Ensure process improvements are sustained
ICPSU553C Prepare production costing estimates
ICPSU583C Troubleshoot and optimise the production process
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP50210 Diploma of Printing and Graphic Arts (Multimedia)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification applies to individuals who possess a sound theoretical knowledge base and use a range of specialised, technical or managerial competencies to plan, design, carry out and evaluate the work of self and/or team in the multimedia sector of the printing and graphic arts industry. They design and author multimedia information, create electronic documents, manipulate databases and information systems.

Job Roles

- Multimedia developer
- Multimedia graphic designer
- Website designer

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is:

- ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPPP485C Develop a digital data template	ICPPP385C Operate a database for digital printing
ICPPP494C Develop document content and structure	ICPPP396A Generate high-end PDF files ICPPP284B Produce PDF files for online or screen display
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards
ICPMM491D Create an extensible document	ICAWEB429A Create a markup language document to specification
ICPMM492D Create an extensible style sheet	ICAWEB429A Create a markup language document to specification
CUFANM401A Prepare 3D digital models for production	CUFANM303A Create 3D digital models

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • consulting with staff about work schedules and how to increase work efficiency • interpreting the design brief and clarifying it with the client • writing reports about team performance
Teamwork	<ul style="list-style-type: none"> • maintaining the production sequence in association with others • obtaining feedback from production workers about scheduling
Problem solving	<ul style="list-style-type: none"> • adjusting costing based on discrepancies between the estimated and actual costing
Initiative and enterprise	<ul style="list-style-type: none"> • encouraging workers to make suggestions to enhance production
Planning and organising	<ul style="list-style-type: none"> • matching the constraints of production to the design brief • planning and implementing work schedules
Self-management	<ul style="list-style-type: none"> • communicating in a logical and easily understood manner • using discretion and confidentiality when dealing with clients
Learning	<ul style="list-style-type: none"> • supporting the development of teams or individuals
Technology	<ul style="list-style-type: none"> • selecting and using special purpose tools, equipment and industry software packages

Packaging Rules

Total number of units = 21 units

4 core units *plus*

10 elective units from Group A *plus*

7 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from other qualifications at the same qualification level or one level higher in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBCUS501C Manage quality customer service

BSBMGT608C Manage innovation and continuous improvement

ICAWEB510A Analyse information and assign meta-tags

ICPKN315C Apply knowledge and requirements of the multimedia sector **OR**

ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry

ICPMM581C Manage multimedia production

ICPMM582C Manage multimedia projects

ICPPP284B Produce PDF files for online or screen display

ICPPP385C Operate a database for digital printing

ICPPP485C Develop a digital data template

ICPPP494C Develop document content and structure

ICPSU455C Supervise and schedule work of others

ICPSU458C Monitor production workflow

ICPSU553C Prepare production costing estimates

Group B Elective Units

BSBCUS401B Coordinate implementation of customer service strategies

BSBDES601A Manage design realisation
BSBMGT402A Implement operational plan
BSBMGT403A Implement continuous improvement
BSBMGT516C Facilitate continuous improvement
BSBREL402A Build client relationships and business networks
BSBWOR402A Promote team effectiveness
BSBWOR404B Develop work priorities
BSBWOR501B Manage personal work priorities and professional development
BSBWOR502B Ensure team effectiveness
CUFANM302A Create 3D digital animations
CUFANM303A Create 3D digital models
CUFANM401A Prepare 3D digital models for production
CUFANM403A Create titles for screen productions
CUFANM503A Design animation and digital visual effects
CUFCMP301A Implement copyright arrangements
CUFDIG302A Author interactive sequences
CUFDIG401A Author interactive media
CUFDIG502A Design web environments
CUFDIG503A Design e-learning resources
CUFDIG504A Design games
CUFDIG505A Design information architecture
ICADBS504A Integrate database with a website
ICAWEB429A Create a markup language document to specification
ICPMM491D Create an extensible document
ICPMM492D Create an extensible style sheet
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP50310 Diploma of Printing and Graphic Arts (Printing)

Modification History

Release	Comments
Release 2	<p>This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i>.</p> <p>Imported elective units updated with the most current equivalent.</p>
Release 1	<p>This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i>.</p>

Description

This qualification reflects the role of individuals who possess a sound theoretical knowledge base and use a range of specialised, technical or managerial competencies to plan, carry out and evaluate own work and/or that of a team. They prepare material, set up, monitor, run equipment and machinery and develop and apply production processes and procedures in the printing industry. Typically they provide leadership and guidance to others and have significant responsibility for the output of others.

Job Roles

- Print machinist (technician)
- Production controller

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is:

- ICP40310 Certificate IV in Printing and Graphic Arts (Printing).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Prerequisite units required
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards
ICPPP396A Generate high-end PDF files	ICPPP284B Produce PDF files for online or screen display
ICPPP452C Output complex images direct to plate or press	ICPPP352C Output complex images
ICPPR496A Set up and produce complex digital print	ICPPR384A Set up and produce basic digital print

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • liaising with stakeholders and other personnel about the causes of systemic variation • reading and interpreting job requirements from the production control system
Teamwork	<ul style="list-style-type: none"> • maintaining the production sequence in association with others
Problem solving	<ul style="list-style-type: none"> • determining possible methods for reworking unsatisfactory product • determining the criteria for product rejection in consultation with the operator and the client
Initiative and enterprise	<ul style="list-style-type: none"> • being alert to potential problems and areas for improvement
Planning and organising	<ul style="list-style-type: none"> • developing plans to improve process capability • setting up for specialised lithographic and flexographic printing
Self-management	<ul style="list-style-type: none"> • communicating in a logical and easily understood manner • following occupational health and safety (OHS) policies and procedures
Learning	<ul style="list-style-type: none"> • providing information and training about OHS • recognising gaps in the competency of team members and developing improvement solutions
Technology	<ul style="list-style-type: none"> • using printing equipment and experimenting with substrate and press settings

Packaging Rules

Total number of units = 20 units

4 core units *plus*

6 elective units from Group A *plus*

10 elective units from Group B or Group C.

Up to **2 elective units** from Group A can be substituted with Group B or Group C elective units listed below.

7 elective units must be selected from the Group B or Group C elective units listed below.

At least **1 set of 2 units** must be chosen from the Group B elective units.

Up to **3 elective units** may be selected from the remaining elective units or from other qualifications at the same qualification level or one level higher in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBMGT516C Facilitate continuous improvement

BSBWOR501B Manage personal work priorities and professional development

ICPSU351C Undertake basic production scheduling

ICPSU458C Monitor production workflow

ICPSU516C Set and apply quality standards

ICPSU553C Prepare production costing estimates

ICPSU583C Troubleshoot and optimise production processes

ICPSU684C Determine and improve process capability

Group B Elective Units

Set 1

ICPPR414C Produce specialist flexographic printed product *and*

ICPPR513C Set up for specialist flexographic printing

Set 2

ICPPR422C Produce specialist gravure printed product *and*

ICPPR521C Set up for specialist gravure printing

Set 3

ICPPR432C Produce specialist lithographic printed product *and*

ICPPR531C Set up for specialist lithographic printing

Set 4

ICPPR442C Produce specialist pad printed product *and*

ICPPR541C Set up for specialist pad printing

Set 5

ICPPR452C Produce specialist relief printed product *and*

ICPPR551C Set up for specialist relief printing

Group C Elective Units

BSBCUS501C Manage quality customer service

BSBMGT608C Manage innovation and continuous improvement

BSBMKG501B Identify and evaluate marketing opportunities

BSBSMB402A Plan small business finances

BSBSMB404A Undertake small business planning

ICAWEB429A Create a markup language document to specification

ICPCF381C Set up machine for complex laminating

ICPCF382C Produce complex laminated product

ICPPP284B Produce PDF files for online or screen display

ICPPP334C Prepare an imposition format for printing processes

ICPPP352C Output complex images

ICPPP370C Make multiple image plates

ICPPP385C Operate a database for digital printing

ICPPP396A Generate high-end PDF files

ICPPP397A Transfer digital files

ICPPP452C Output complex images direct to plate or press

ICPPP484C Set up and operate automated workflow

ICPPR382C Produce and manage complex digital print

ICPPR383C Prepare for personalised digital printing

ICPPR384A Set up and produce basic digital print

ICPPR471C Set up for complex coating

ICPPR472C Produce complex coated product

ICPPR484C Prepare for variable data printing

ICPPR496A Set up and produce complex digital print

MSACMC410A Lead change in a manufacturing environment

MSACMT440A Lead 5S in a manufacturing environment

MSAENV472B Implement and monitor environmentally sustainable work practices

MSAPMSUP390A Use structured problem solving tools

ICP50410 Diploma of Printing and Graphic Arts (Management/Sales)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals who possess a sound theoretical knowledge in sales management and demonstrate a range of managerial skills to ensure that print production and sales functions are effectively conducted in an organisation or business. Typically they would have responsibility for the work of other staff and lead teams in conducting sales campaigns.

Job Roles

- Manager, administration and sales.

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)
- ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)
- ICP40310 Certificate IV in Printing and Graphic Arts (Printing)
- ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)
- ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)
- ICP40610 Certificate IV in Printing and Graphic Arts (Management/Sales).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Units in Qualification with Prerequisites

Code and title	Pre-requisite units required
ICPSU458C Monitor production workflow	ICPSU216C Inspect quality against required standards

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • accurately using correct printing industry terminology and vocabulary • writing and disseminating reports on customer service performance
Teamwork	<ul style="list-style-type: none"> • developing and implementing consultation processes with employees • managing strategies to facilitate effective workplace relationships
Problem solving	<ul style="list-style-type: none"> • adjusting costings based on discrepancies between the estimated and actual costings • maximising efficiency of capital and human resources during different jobs
Initiative and enterprise	<ul style="list-style-type: none"> • continuously evaluating processes and recommending changes for improvement • developing strategic networks
Planning and organising	<ul style="list-style-type: none"> • performing strategic and operational planning
Self-management	<ul style="list-style-type: none"> • adjusting own interpersonal style and methods to suit the situation • treating people with integrity, respect and empathy to develop trust and confidence
Learning	<ul style="list-style-type: none"> • obtaining feedback on customer satisfaction on an ongoing basis
Technology	<ul style="list-style-type: none"> • using technology to assist with the management of information

Packaging Rules

Total number of units = 20 units

4 core units *plus*

11 elective units from Group A *plus*

5 elective units from Group B.

Up to **2 elective units** from Group A can be substituted with Group B elective units listed below.

2 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from other qualifications at the same qualification level or one level higher in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBREL401A Establish networks

BSBMKG413A Promote products and services

BSBCUS401B Coordinate implementation of customer service strategies

BSBCUS501C Manage quality customer service

BSBMGT515A Manage operational plan

BSBMGT516C Facilitate continuous improvement

BSBMKG501B Identify and evaluate marketing opportunities

BSBSLS501A Develop a sales plan

ICPKN316C Apply knowledge and requirements of paper and printing processes

ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry

ICPSU455C Supervise and schedule work of others

ICPSU458C Monitor production workflow

ICPSU464C Provide customer service and education

ICPSU553C Prepare production costing estimates

Group B Elective Units

BSBMGT608C Manage innovation and continuous improvement

BSBMKG401B Profile the market
BSBPMG401A Apply project scope management techniques
BSBREL402A Build client relationships and business networks
BSBSMB402A Plan small business finances
BSBSMB403A Market the small business
BSBSMB404A Undertake small business planning
BSBWOR501B Manage personal work priorities and professional development
BSBWOR502B Ensure team effectiveness
ICPPP484C Set up and operate automated workflow
ICPSU485C Implement a just-in-time (JIT) system
ICPSU684C Determine and improve process capability
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
SIRXSL008A Develop a sales strategy
SIRXCCS006A Maintain business to business relationships
SIRXCCS005A Manage business customers
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICP50510 Diploma of Printing and Graphic Arts (Process Improvement)

Modification History

Release	Comments
Release 2	This version released with <i>ICP10 Printing and Graphic Arts Training Package version 2.0</i> . Imported elective units updated with the most current equivalent.
Release 1	This Qualification first released with <i>ICP10 Printing and Graphic Arts Training Package version 1.0</i> .

Description

This qualification applies to individuals engaged in planning, administering and reviewing the production processes in an organisation to optimise resource use, minimise costs and maintain quality standards. They analyse and evaluate information from a variety of sources and apply solutions to improve production processes. They provide leadership and guidance to others with responsibility for the output of others.

Job Roles

- Production coordinator
- Production supervisor.

Pathways Information

Pathways into the qualification

Candidates may enter the qualification with limited or no vocational experience and without a relevant lower level qualification. However, the preferred pathway for candidates entering this qualification is one of the following qualifications:

- ICP40110 Certificate IV in Printing and Graphic Arts (Graphic Pre-press)
- ICP40210 Certificate IV in Printing and Graphic Arts (Multimedia)
- ICP40310 Certificate IV in Printing and Graphic Arts (Printing)
- ICP40410 Certificate IV in Printing and Graphic Arts (Print Finishing)
- ICP40510 Certificate IV in Printing and Graphic Arts (Mail House)
- ICP40710 Certificate IV in Printing and Graphic Arts (Process Leadership).

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, where required, a unit of competency will specify relevant licensing, legislative and/or regulatory requirements that impact on the unit.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

The following table contains a summary of the Employability Skills required for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • using a range of questioning and prompting techniques to promote team participation • writing and disseminating reports on customer service performance
Teamwork	<ul style="list-style-type: none"> • developing and implementing consultation processes with employees • managing strategies to facilitate effective workplace relationships
Problem solving	<ul style="list-style-type: none"> • adjusting costings based on discrepancies between estimated and actual costings • maximising efficiency of capital and human resources during different jobs
Initiative and enterprise	<ul style="list-style-type: none"> • continuously evaluating processes and recommending changes for improvement • developing strategic networks
Planning and organising	<ul style="list-style-type: none"> • performing strategic and operational planning • planning job sequences and workloads to ensure maximum productivity
Self-management	<ul style="list-style-type: none"> • adjusting own interpersonal style and methods to suit the situation • treating people with integrity, respect and empathy to develop trust and confidence
Learning	<ul style="list-style-type: none"> • obtaining feedback on customer satisfaction on an ongoing basis • training team members to apply the correct manual handling techniques
Technology	<ul style="list-style-type: none"> • using technology to assist with the management of information

Packaging Rules

Total number of units = 20 units

4 core units *plus*

9 elective units from Group A *plus*

7 elective units from Group B.

Up to **2 elective units** from Group A can be substituted for Group B elective units listed below.

4 elective units must be selected from the Group B elective units listed below.

Up to **3 Group B elective units** may be selected from the remaining elective units or from other qualifications at the same qualification level or one level higher in this Training Package or any other endorsed Training Package or accredited course.

Elective units must be relevant to the qualification level, job role, work outcome and industry requirements. Unit selection is by negotiation and mutual agreement between the employee, employer and the RTO and is based on enterprise and individual needs.

Core Units

BSBSUS501A Develop workplace policy and procedures for sustainability

ICPSU216C Inspect quality against required standards

ICPSU260C Maintain a safe work environment

ICPSU262C Communicate in the workplace

Group A Elective Units

BSBWOR501B Manage personal work priorities and professional development

BSBMGT515A Manage operational plan

BSBMGT516C Facilitate continuous improvement

BSBMGT608C Manage innovation and continuous improvement

ICPSU487C Analyse manual handling processes

ICPSU516C Set and apply quality standards

ICPSU553C Prepare production costing estimates

ICPSU554C Manage teams

ICPSU561C Implement and monitor OHS

ICPSU583C Troubleshoot and optimise the production process

ICPSU684C Determine and improve process capability

Group B Elective Units

BSBCUS501C Manage quality customer service

BSBMKG501B Identify and evaluate marketing opportunities

BSBSMB402A Plan small business finances

BSBSMB404A Undertake small business planning

BSBWOR502B Ensure team effectiveness

ICPSU485C Implement a just-in-time (JIT) system
MSACMC410A Lead change in a manufacturing environment
MSACMT440A Lead 5S in a manufacturing environment
MSACMT621A Develop a just-in-time (JIT) system
MSAENV472B Implement and monitor environmentally sustainable work practices
MSAPMSUP390A Use structured problem solving tools
TAEASS402B Assess competence
TAEDEL402A Plan, organise and facilitate learning in the workplace

ICPCF105C Operate in-line mail machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to safely operate an intelligent in-line cut sheet form feeder, folder and inserter mail machine.
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Application of the Unit

Application of the unit	This unit requires the individual to safely operate and monitor an in-line mail machine. The individual will be required to rectify any production faults but not machinery problems. The individual will off load the completed packages and correctly pack and label them for further distribution.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor operation	1.1. Job is signed off by printers and ready for <i>mailing procedures</i> 1.2. <i>Machine</i> is jogged to ensure correct positioning and hopper feed operation 1.3. All <i>units</i> are monitored to ensure optimum operation 1.4. Envelopes are manipulated and fanned to ensure they move efficiently through the machine 1.5. Folds, inserts and envelopes are continuously monitored for defects and defects are put aside for remake 1.6. <i>Materials</i> are checked and hoppers reloaded as required
2. Check quality	2.1. Mail is monitored to ensure quality standards are met 2.2. Supervisor is contacted when the quality standards are not met 2.3. Sequence is monitored according to job specifications 2.4. The number of spoils are documented according to enterprise procedures
3. Pack envelopes	3.1. Completed envelopes are unloaded and checked for quality 3.2. Completed packages are packed into labelled trays and Australia Post labels are affixed according to job specifications 3.3. Sequence numbers and postcodes are in correct pre-sort order ensuring job continuity 3.4. The job is reconciled and documented and the supervisor is notified if the job does not reconcile

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- basic computer skills
- OHS in relation to operating machinery
- communication skills to read job specifications
- teamwork when notifying the supervisor of problems
- problem solving when reconciling the job
- basic numeracy skills to reconcile mail
- effective communication and teamwork with colleagues and supervisors

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • safely operate and monitor production on an in-line mail machine and correctly notify supervisor when problems arise • demonstrate all safety devices on the machine • the individual will complete TWO entire jobs that include multiple inserts • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU243C Reconcile process outputs.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Mailing procedures</i> may include:	<ul style="list-style-type: none"> job could be mailed or returned to client.
<i>Machine</i> may include:	<ul style="list-style-type: none"> intelligent in-line cut sheet form feeder, folder and inserter.
<i>Units</i> may include:	<ul style="list-style-type: none"> hoppers, folders, inserters, folders, accumulator, sealers, exit conveyors.
<i>Materials</i> may include:	<ul style="list-style-type: none"> printed multiple or single inserts and envelopes, water for gluing, glue.
<i>Mail type</i> may include:	<ul style="list-style-type: none"> full rate, National pre-sort, DPID.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF202C Handline mail

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually collate and insert irregular and bulky mail documents.
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Application of the Unit

Application of the unit	This unit requires knowledge and skills to collate and insert irregular and bulky mail. This will involve repetitive routine and non-routine activities.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Collate materials	<p>1.1. All materials required for the job are checked and confirmed against <i>job specifications</i></p> <p>1.2. Materials are <i>changed</i> or adapted according to job specifications</p> <p>1.3. Materials are arranged in a manner that makes manual collation as easy and safe as possible</p> <p>1.4. Collated materials are correct and in sequence and any faulty materials are removed and documented</p> <p>1.5. If required, items are decollated according to job specifications</p> <p>1.6. Manual wrapping of materials is completed if required according to job specifications</p>
2. Match inserts	<p>2.1. Collated data is correctly <i>matched</i> to addressee</p> <p>2.2. Address information is verified as accurate</p> <p>2.3. Random checks are performed to ensure quality is met</p> <p>2.4. Any discrepancies are reported to the supervisor</p> <p>2.5. Envelopes or packs are glued or sealed according to job specifications</p>
3. Reconcile output	<p>3.1. The total number of throughputs matches the job specifications</p> <p>3.2. The destination delivery unit rate matches the job specifications and meets Australia Post standards</p> <p>3.3. An information <i>matching</i> trail is documented</p> <p>3.4. Correct procedures for the <i>control of materials</i> are followed</p> <p>3.5. Any discrepancies are reported to the supervisor</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- basic materials handling and use of technology skills
- OHS in relation to lifting and shifting stock
- literacy skills to read job specifications and document an information matching trail
- basic numeracy skills to reconcile mail
- effective communication with colleagues and supervisors
- teamwork with colleagues and supervisors to maintain the production process
- identifying problems by using random checks to ensure quality is met and reporting discrepancies
- planning and organising to ensure that materials are in the correct order and collated correctly

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manually collate and insert irregular and bulky mail or packages according to job specifications and within the production timeframe demonstrate an ability to find and use information relevant to the task from a variety of information sources the individual will change individual items, collate, pick and pack mail or packages and remove any spoils or faulty work.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Matched</i> may include:	<ul style="list-style-type: none"> the process of keeping together a unique insert to the addressee that goes with at least one other unique insert in the same package, or a unique insert to the addressee that goes with the address information located on the outside of the package
<i>Matching</i> may include:	<ul style="list-style-type: none"> labels added censoring stickers to meet: <ul style="list-style-type: none"> particular state and territory legislation meet client preferences
<i>Materials</i> may include:	<ul style="list-style-type: none"> could include magazines, bulky or large paper inserts, samples in show bags, PR or promotional materials
<i>Control of materials</i> may include:	<ul style="list-style-type: none"> includes spoils, depleted stock, oversupplies and undersupplies.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF203C Collate and insert mail manually

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually collate and insert mail documents.
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Application of the Unit

Application of the unit	This unit requires the individual to collate and insert mail. It involves known routines and procedures with some accountability for the quality of outcomes. It may involve some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Collate inserts	1.1. All inserts required for the job are checked and confirmed against job specifications 1.2. Inserts are arranged in a manner that makes manual collation as easy and safe as possible 1.3. Collated inserts are correct and in sequence
2. Match inserts	2.1. Collated data is correctly <i>matched</i> to addressee 2.2. Address information is verified as accurate 2.3. Bar code information is checked for correct sequence of addressees to collated information where relevant 2.4. Any discrepancies are reported to the supervisor
3. Reconcile output	3.1. The total number of throughputs matches the job specifications 3.2. The destination delivery unit rate matches the job specifications 3.3. An information matching trail is documented 3.4. Correct procedures for the <i>control of materials</i> are followed 3.5. Any discrepancies are reported to the supervisor

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- basic materials handling and use of technology skills
- OHS in relation to lifting and shifting stock
- literacy skills to read job specifications and document an information matching trail
- basic numeracy skills to reconcile mail
- effective communication with colleagues and supervisors
- teamwork with colleagues and supervisors to maintain the production process
- identifying problems and faults and developing solutions
- planning and organising to ensure that materials are in the correct order and collated correctly
- reconciling mail and inserts at critical points in the process

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manually collate and insert mail documents according to job specifications and within the production timeframe the individual will be able to manually collate and insert mail documents and reconcile the job. The individual will complete two full jobs.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Matched/matching</i> may include:	<ul style="list-style-type: none"> the process of keeping together a unique insert to the addressee that goes with at least one other unique insert in the same package, or a unique insert to the addressee that goes with the address information located on the outside of the package.
<i>Control of materials</i> may include:	<ul style="list-style-type: none"> includes spoils, depleted stock, oversupplies and undersupplies.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF204C Operate addressing machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to operate an addressing machine.
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Application of the Unit

Application of the unit	This unit requires the individual to interpret the job specifications and operate the addressing machine. The individual will monitor production for problems and to ensure quality. The operator will correctly pack mail at the end of the process and clear the machine of materials and wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. Job is signed off by printers and ready for <i>mailing procedures</i> 1.3. The <i>materials</i> are checked and in correct order for the job and all sheets are in the correct position for bar code scanning if required 1.4. Blades are sharp and correctly fitted and water for gluing is available 1.5. All tracks and conveyor belts are clean and clear 1.6. Work area is safe and ready for production according to safety requirements
2. Monitor operation	2.1. <i>Machine</i> is jogged to ensure correct positioning and hopper feed operation 2.2. All units are monitored to ensure optimum operation 2.3. Mail is monitored to ensure it moves efficiently through the machine 2.4. Materials are checked and hoppers reloaded as required 2.5. Adjustments are made when the quality standards are not met 2.6. Quality is monitored according to job specifications 2.7. The number of spoils are documented according to enterprise procedures
3. Identify and rectify problems	3.1. Sequence, placement or gluing errors are identified and changes made to guides or on the console as required 3.2. Tracks, conveyors and gluer are cleaned and cleared if lags and jams occur 3.3. Faulty performance of equipment is identified and reported according to enterprise procedures 3.4. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards
4. Pack mail	4.1. Addressed mail is unloaded and checked for quality 4.2. Completed packages are packed into labelled trays and Australia Post labels are affixed according to job specifications 4.3. Sequence numbers and postcodes are in correct

ELEMENT	PERFORMANCE CRITERIA
	pre-sort order ensuring job continuity 4.4. The job is reconciled and documented and supervisor is notified if job does not reconcile 4.5. The machine is cleared and stock put away

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery and lifting materials
- literacy skills to read job specifications
- basic numeracy skills to reconcile mail
- basic materials handling and use of technology skills
- literacy skills to read job specifications and document an information matching trail
- effective communication with colleagues and supervisors
- teamwork with colleagues and supervisors to maintain the production process
- identifying problems and faults and developing solutions
- planning and organising to ensure that materials are in the correct order and are collated correctly

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • ensure addresses are affixed securely and in the correct position and any production problems are fixed with minimum downtime • demonstrate all safety devices on the machine • the individual must complete TWO entire jobs within enterprise accepted timeframes • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to a Cheshire labelling machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU243C Reconcile process outputs.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Mailing procedures</i> may include:	<ul style="list-style-type: none"> • job could be mailed or returned to client.
<i>Materials</i> may include:	<ul style="list-style-type: none"> • Cheshire labels • gummed labels that can be used on a Cheshire machine • water or glue.
<i>Machine</i> may include:	<ul style="list-style-type: none"> • Cheshire machine.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF208C Set up and operate a cheque mailer machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to safely set up and operate a cheque mailer machine.
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Application of the Unit

Application of the unit	This unit requires the individual to safely set up, operate and monitor a cheque mailer machine. The individual will be required to rectify any production faults but not machinery problems. The individual will off load the completed books and correctly pack and complete reconciliation requirements.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. The books are checked and in correct order and position for the job 1.3. First and last name listings are checked as correct 1.4. The correct envelopes are obtained from enterprise storage area and water container is checked 1.5. Envelopes are correctly loaded and hopper guides adjusted according to job specifications 1.6. Books are correctly loaded and book feeder adjusted according to job specifications 1.7. All feeders and conveyor belts are clean and clear 1.8. Work area is safe and ready for production according to safety requirements
2. Monitor operation	2.1. <i>Machine</i> is jogged to ensure correct positioning and hopper feed operation 2.2. Books and envelopes are replenished to ensure continuous supply 2.3. Books and envelopes are continuously monitored for faulty work and put aside securely for remake
3. Reconcile job	3.1. The sequence of names is checked against job specifications/listing sheet 3.2. The number of spoils are documented according to enterprise procedures 3.3. The details of the spoils are marked off on job documentation and the supervisor is notified 3.4. All remaining documentation is completed according to reconciliation and <i>security</i> requirements
4. Complete job	4.1. Completed packages are packed into labelled trays and Australia Post labels are affixed according to job specifications 4.2. Faulty work is disposed of according to security requirements 4.3. The machine is cleared and stock put away according to security requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read job specifications and complete workplace documentation
- basic numeracy skills to reconcile mail
- organising the job by ensuring that materials are in the correct order and position prior to production
- working in a team by maintaining the production process in association with others
- using technology such as cheque mailing machines
- problem solving by identifying and rectifying production faults

Required knowledge

- waste disposal procedures
- understanding of security requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • safely operate and monitor a cheque mailer machine and complete all required documentation and reconciliations. This will be done with minimum downtime • demonstrate all safety devices on the machine • the individual will complete TWO entire jobs that include documenting all faults and reconciling the work. This will be done with minimum downtime • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to a cheque mailer machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU243C Reconcile process outputs.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machine</i> may include:	<ul style="list-style-type: none"> cheque book mailer machine.
<i>Security</i> may include:	<ul style="list-style-type: none"> reconciliation systems storage processes disposal processes.
<i>Materials</i> may include:	<ul style="list-style-type: none"> envelopes of different sizes, water, glue, cheque books.
<i>Mail type</i> may include:	<ul style="list-style-type: none"> full rate national pre-sort DPID.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF209C Set up and operate in-line mail machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to safely set up and operate an intelligent in-line cut sheet form feeder, folder and inserter mail machine.
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Application of the Unit

Application of the unit	This unit requires the individual to safely set up, operate and monitor an in-line mail machine. The individual will be required to rectify any production problems and replace machinery consumables. The individual will off load the completed packages and correctly pack and label them for further distribution.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. Job is signed off by printers and ready for <i>mailing procedures</i> 1.3. Mailing procedures are identified from job specifications 1.4. The <i>materials</i> are checked and in correct order for the job and all sheets are in the correct position for bar code scanning if required 1.5. All tracks and conveyor belts are clean and clear 1.6. Work area is safe and ready for production according to safety requirements
2. Set up job	2.1. The <i>mail type</i> is identified from job specifications 2.2. Number and type of inserts are identified 2.3. Job specifications are entered into console 2.4. Settings are checked against job specifications before production is commenced
3. Monitor operation	3.1. Machine is jogged to ensure correct positioning and hopper feed operation 3.2. All <i>sections</i> of the machine are monitored to ensure optimum operation 3.3. Envelopes are manipulated and fanned to ensure they move efficiently through the machine 3.4. Folds, inserts and envelopes are continuously monitored for defects and defects are put aside for remake 3.5. Materials are checked and hoppers reloaded as required 3.6. Adjustments are made when the quality standards are not met 3.7. Sequence is monitored according to job specifications 3.8. The number of spoils are documented according to enterprise procedures
4. Identify and rectify problems	4.1. Sequence or inserter errors are identified and bar codes checked and changes entered into console, if required 4.2. Tracks, conveyors and sensors are cleaned and cleared if lags and jams occur

ELEMENT	PERFORMANCE CRITERIA
	4.3. Any <i>machine consumables</i> needing replacement are replaced or adjusted with a minimum of downtime 4.4. Faulty performance of equipment is identified and reported according to enterprise procedures 4.5. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards
5. Pack envelopes	5.1. Completed envelopes are unloaded and checked for quality 5.2. Completed packages are packed into labelled trays and Australia Post labels are affixed according to job specifications 5.3. Sequence numbers and postcodes are in correct pre-sort order ensuring job continuity 5.4. The job is reconciled and documented and the supervisor is notified if the job does not reconcile 5.5. The machine is cleared and stock put away

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- using technology such as computers and in-line mail machines
- OHS in relation to operating machinery
- literacy skills to read job specifications and document results of job reconciliation
- basic numeracy skills to reconcile mail
- planning and organising by ensuring that materials are in the correct order and position prior to production
- teamwork by maintaining the production process in association with others
- problem solving by identifying and rectifying faults in the operation of the machine

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • safely set up, operate and monitor an in-line mail machine and rectify any faults with productions. This will be done with minimum downtime • demonstrate all safety devices on the machine • the individual will set up and complete a job that includes multiple inserts and rectify any routine production problems that occur, with minimum downtime • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to an in-line cut sheet form feeder, folder and inserter.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU243C Reconcile process outputs.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Mailing procedures</i> may include:	<ul style="list-style-type: none"> • job could be mailed or returned to client.
<i>Materials</i> may include:	<ul style="list-style-type: none"> • printed multiple or single inserts and envelopes, water for gluing.
<i>Mail type</i> may include:	<ul style="list-style-type: none"> • full rate • national pre-sort • DPID.
<i>Machine</i> may include:	<ul style="list-style-type: none"> • intelligent in-line cut sheet form feeder, folder and inserter.
<i>Sections</i> may include:	<ul style="list-style-type: none"> • hoppers • folders • inserters • accumulator • sealers • exit conveyors.
<i>Machinery consumables</i> may include:	<ul style="list-style-type: none"> • stacker wheels, belts, suckers, gripper arms, water brush, OMR readers, bar code readers, adjustments to a double detector.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF2101C Set up and run machine for sewing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and run a machine for sewn fastening.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and run a machine for sewn fastening.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are determined from job documentation or production control system 1.2. Availability of all job related components is checked
2. Set up sewing machine	2.1. Feeder is set up and adjusted according to job specifications 2.2. Different <i>types of thread</i> are set up according to job specifications and thread tension is correct 2.3. Different types of needles are fitted according to job specifications 2.4. The correct <i>sewing tape</i> is attached to the machine according to job specifications 2.5. Hand rules are set according to job specifications 2.6. Timing of the slitter is adjusted according to job specifications
3. Complete work	3.1. The sewing machine is operated safely according to enterprise procedures 3.2. Job is completed in required time 3.3. Samples are continuously monitored for defects and defects are removed 3.4. The locations of all emergency shutdown buttons and triggers are known 3.5. All processed product is stacked and packed in bundles

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication when checking and confirming all details required for the job against job specifications
- problem solving when selecting and checking a sample from the machine to ensure it conforms to the required quality standards
- planning and organising when preparing the job before setting up the sewing machine; planning the job to meet the required timeframe
- teamwork by maintaining the production process in association with others
- use of technology by setting up and operating fastening equipment

Required knowledge

- OHS areas that must be addressed when setting up these areas of the machine
- effect of sewing being in the wrong position
- the largest/smallest size bag or sack that can be processed on the machine
- adapting the machines to facilitate smaller/larger stock

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set and efficiently operate a machine for sewn fastening according to job specifications and within the production timeframe • demonstrate all safety devices on the machine • set up and run a machine to produce THREE different sewn products • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a machine for sewn fastening.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of thread</i> may include:	<ul style="list-style-type: none"> cotton, oiled cotton, hemp.
<i>Sewing tape</i> may include:	<ul style="list-style-type: none"> different widths, stretch tape, back taping.
<i>Bag variables</i> may include:	<ul style="list-style-type: none"> multi-wall, bags, sacks, waxed, plastic films.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF2104C Set up single-faced web

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a single-faced web for corrugated board manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to set up the reel in-feed, splicer, pre-conditioner, pre-heater, single facer, curing, coating and/or waxing sections of a corrugator.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for set up	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. Set-up is carried out correctly and in minimum time 1.3. Paper/board quantity requirements are estimated, ordered and checked
2. Set up reel transportation system	2.1. Unwind reel is set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to machinery requirements 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications
3. Set up machine for single facing	3.1. Steam delivery system is set up and adjusted to suit corrugating process and according to job specifications 3.2. Corrugating rolls and pressure roll are set to correct pressure 3.3. Starch delivery system is set up and adjusted to suit corrugating process and according to job specifications 3.4. Heat delivery system is set up and adjusted to suit corrugating process and according to job specifications
4. Set up in-line units	4.1. Wax units are set up and adjusted to suit corrugating process and according to job specifications 4.2. Coating units are set up and adjusted to suit corrugating process and according to job specifications 4.3. Slitters are set up and adjusted according to job specifications 4.4. Cut-off knife is set up and adjusted according to job specifications
5. Inspect and adjust quality	5.1. Inspection and/or testing of sample is organised 5.2. Sample is visually inspected and/or tested according to enterprise procedures 5.3. Results are interpreted to determine adjustment requirements 5.4. Adjustment changes are carried out according to

ELEMENT	PERFORMANCE CRITERIA
	product and <i>machine</i> specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication by checking and confirming all details required for the job against job specifications
- problem solving by selecting and checking a sample from the machine to ensure it conforms to the required quality standards
- planning and organising by preparing the job before setting up the sewing machine; planning the job to meet the required timeframe
- teamwork by maintaining the production process in association with others
- use of technology by setting roll pressures, adjusting steam delivery system and calibrating the equipment

Required knowledge

- significant risks that are posed to workers in this activity
- measures that are employed to prevent injury and/or illness in the case of the above identified risks
- identifying the different types/categories of rolled paperboard accurately
- end products commonly made from each of the rolled paperboard types
- principal components of a typical, single-face corrugated board adhesive
- determining satisfactory performance of this adhesive
- main tools and/or equipment items necessary for the efficient handling of paperboard rolls in the corrugation in-feed section
- setting up the machine checks
- correct settings
- product factors that are monitored automatically during production
- achieving the monitoring function
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up the reel in-feed, splicer, pre-conditioner, pre-heater, single facer, curing, coating and/or waxing sections of a corrugator • set up the reel in-feed, splicer, pre-conditioner, pre-heater, single facer, curing, coating and/or waxing sections of a corrugator for at least TWO different product runs, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • in-line corrugating machinery.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product • ICPCF231C Set up machine for basic flat-bed cutting • ICPCF235C Set up machine for basic rotary cutting • ICPCF281C Set up machine for basic laminating • ICPCF3105C Produce single-faced web

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine.
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Machines</i> may include:	<ul style="list-style-type: none"> • range of corrugating machines with manual, semi-automated and fully automated process control systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • range of wax and coating systems operations, slitters and cutters. Note that slitting and cutting may be separately assessable as flat-bed or rotary cutting.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of board or paper.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide reel handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF2106C Set up double-faced web

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a double-faced web for corrugated board manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to set up the reel in-feed, splicer, bridge, pre-heater, double backer, curing, coating and/or waxing sections of a corrugator.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for set up	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. Set-up is carried out correctly and in minimum time 1.3. Paper/board quantity requirements are estimated, ordered and checked
2. Set up reel transportation system	2.1. Unwind reel is set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to machinery requirements 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications
3. Set up machine for double facing	3.1. Starch delivery system is set up and adjusted to suit corrugating process and according to job specifications 3.2. Rider roll is set to correct pressure 3.3. Heat delivery system is set up and adjusted to suit corrugating process and according to job specifications
4. Set up in-line units	4.1. Wax units are set up and adjusted to suit corrugating process and according to job specifications 4.2. Coating units are set up and adjusted to suit corrugating process and according to job specifications 4.3. Tape dispensing units are set up and adjusted to suit corrugating process and according to job specifications 4.4. Slitters are set up and adjusted according to job specifications 4.5. Cut-off knife is set up and adjusted according to job specifications
5. Inspect and adjust quality	5.1. Inspection and/or testing of sample is organised 5.2. Sample is visually inspected and/or tested according to enterprise procedures 5.3. Results are interpreted to determine adjustment requirements 5.4. Adjustment changes are carried out according to product and <i>machine</i> specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication by checking and confirming all details required for the job against job specifications
- problem solving by selecting and checking a sample from the machine to ensure it conforms to the required quality standards
- planning and organising by preparing the job before setting up the sewing machine; planning the job to meet the required timeframe
- teamwork by maintaining the production process in association with others
- use of technology by setting roll pressures, adjusting steam delivery system and calibrating the equipment in a minimum of time
- interpreting results from gathered information or evidence and making adjustments to equipment

Required knowledge

- the significant risks that are posed to workers in this activity
- measures that are employed to prevent injury and/or illness in the case of the above identified risks
- identifying the different types/categories of rolled paperboard accurately
- end products commonly made from each of the rolled paperboard types
- principal components of a typical, double-backed corrugated board adhesive
- determining satisfactory performance of this adhesive
- main tools and/or equipment items necessary for the efficient handling of paperboard rolls in the corrugation in-feed section
- setting up the machine checks
- correct settings
- product factors that are monitored automatically during production
- achieving the monitoring function
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up the reel in-feed, splicer, bridge, pre-heater, double backer, curing, coating and/or waxing sections of a corrugator • demonstrate all safety devices on the machine • set up the reel in-feed, splicer, bridge, pre-heater, double backer, curing, coating and/or waxing sections of a corrugator for at least TWO different product runs, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment will take place on the job • in-line corrugating machinery.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product • ICPCF231C Set up machine for basic flat-bed cutting • ICPCF235C Set up machine for basic rotary cutting • ICPCF3107C Produce double-faced web • ICPSU201C Prepare, load and unload reels and cores on and off machine.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of corrugating machines with manual, semi-automated and fully automated process control systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> range of wax and coating systems operations, slitters and cutters. Note that slitting and cutting may be separately assessable as flat-bed or rotary cutting.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of board or paper.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide reel handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPCF2108C Produce basic folded and glued cartons

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic folded and glued cartons.
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Application of the Unit

Application of the unit	This unit requires the individual to produce basic folded and to glued cartons and correctly shut down machinery when the job is completed.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of carton blank system	1.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to <i>machine</i> 1.2. Carton blank pick-up and transport system is monitored and adjusted to ensure accurate and continuous carton blank handling and efficient operation 1.3. Transfer systems are monitored and adjusted to ensure correct and continuous carton blank handling and efficient operation 1.4. Delivery is monitored and adjusted to ensure quality and efficient <i>product</i> delivery
2. Maintain basic gluing and continuous folding process	2.1. Registration and squareness of fold are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 2.2. Registration of gluing is monitored and adjusted to ensure quality of product meets the standard of approved sample 2.3. Adhesion is monitored and adjusted to ensure quality meets the standard of approved sample
3. Maintain production process	3.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.3. Performance is monitored and verified using the process control system according to enterprise procedures 3.4. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.5. Process adjustments to eliminate problems are reported according to enterprise procedures 3.6. Faulty performance of equipment is identified and reported according to enterprise procedures 3.7. Waste is sorted according to procedures
4. Identify and rectify minor problems	4.1. Problems in folding operation are identified and reported according to enterprise procedures 4.2. Adjustments or corrections are carried out according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Folding is checked to ensure correct operation</p> <p>4.4. Problems in gluing unit are identified and reported according to enterprise requirements</p> <p>4.5. Adjustments or corrections are carried out according to enterprise procedures and consistent with operator's skill level</p> <p>4.6. Gluing unit operation is checked to ensure correct operation</p>
<p>5. Conduct shutdown of production process</p>	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>5.4. Waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5. Machine faults requiring repair are identified and reported to designated person, according to enterprise procedures</p> <p>5.6. Repair/adjustment is verified prior to resumption of operations</p> <p>5.7. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication by checking and confirming all details required for the job against job specifications or production control system
- problem solving by interpreting results from gathered information or evidence and making adjustments to equipment
- planning and organising by preparing the job before setting up the sewing machine planning the job to meet the required timeframe
- teamwork by maintaining the production process in association with others
- use of technology by using carton folding and gluing machines

Required knowledge

- OHS factors that must be considered when setting and/or operating machine delivery systems
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- checked to be undertaken when substrate is removed from the machine
- OHS factors that must be considered when using the folder/gluer machine
- areas to continually observe to ensure the smooth trouble-free operation of the machine
- adjusting the glue application
- OHS factors that must be considered when adjusting/correcting the machine
- causes of out-of-square folding and how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if the job is out-of-square
- communication action that should be instigated if ink is too wet for production
- communication action that should be instigated if the job does not coincide with the sample
- part(s) of the machine that should be adjusted if carton blanks are creasing
- factors that cause poor glue adhesion on cartons
- OHS factors that must be considered when cleaning the machine
- important that tasks must be performed to correctly shut down the machine
- preparing the finished work for dispatch
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- quality aspects that should be considered in a completed folded job
- altering production to meet client requirements

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• machine manuals and safety documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a range of simple straight line folded and glued cartons on one of the following machines: a Royal 40, a Bobst Media or a Bobst Domino demonstrate an ability to find and use information relevant to the task from a variety of information sources produce at least FOUR simple straight line folded and glued cartons of different sizes and weights according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment for example a Royal 40, a Bobst Media or a Bobst Domino.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Machines</i> may include:	<ul style="list-style-type: none"> a Royal 40, a Bobst Media, a Bobst Domino.
<i>Product</i> any include:	<ul style="list-style-type: none"> straight line folded and glued cartons of different sizes and weights.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF220C Produce basic converted or finished product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to cover most converting and finishing operations.
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Application of the Unit

Application of the unit	The unit requires the individual to maintain substrate operations and to complete relevant finishing processes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel (OR Element 2)	<p>1.1. Reel stand and rewind is monitored and adjusted to ensure efficient continuous operation and to maintain correct tension and to ensure no marks, blemishes or damage to finished product</p> <p>1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation</p> <p>1.3. Substrate is added and removed to and from the process according to job specifications</p> <p>1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery</p>
2. Maintain operation of sheet system (OR Element 1)	<p>2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine</p> <p>2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation</p> <p>2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation</p> <p>2.4. Substrate is added to process according to job specifications</p>
3. Maintain basic cutting or embossing process	<p>3.1. Cutting edge and knife or die condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>3.2. Cutting/embossing pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>3.3. Registration of cutting devices and knives or dies is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>3.4. Packing of cutting/embossing devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p>
4. Maintain folding process	<p>4.1. Registration and squareness of fold are monitored and adjusted to ensure the quality of product meets the standard of the approved sample, if relevant</p> <p>4.2. Collating/inserting process is monitored and adjusted to ensure quality of product meets the standard of the approved sample, if relevant</p>

ELEMENT	PERFORMANCE CRITERIA
5. Maintain basic fastening (adhesive/mechanical/thermal) process	<p>5.1.Registration of fastening is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>5.2.Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample OR</p> <p>5.3.Power current and dwell time is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p>
6. Maintain basic laminating process	<p>6.1.Registration of laminating is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>6.2.Pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>6.3.Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>6.4.Basic in-line printing/coating processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p>
7. Maintain production process	<p>7.1.Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>7.2.Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>7.3.Manual and/or automatic control is used according to job specifications</p> <p>7.4.Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>7.5.Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>7.6.Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>7.7.Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>7.8.Waste is sorted according to enterprise procedures</p>
8. Identify and rectify	8.1.Product and substrate are monitored and tested to

ELEMENT	PERFORMANCE CRITERIA
problems or faults	<p>ensure conformance to client requirements</p> <p>8.2. Problems in <i>converting/finishing</i> machine operation are identified and reported according to enterprise procedures</p> <p>8.3. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>8.4. Converting/finishing machine operation is checked to ensure correct operation</p>
9. Conduct shutdown of production process	<p>9.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>9.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>9.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>9.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>9.5. Repair/adjustment is verified prior to resumption of operations</p>
10. Clean converting/finishing machine at end of run	<p>10.1. <i>Cutting units</i> are disengaged and cleaned ready for next run</p> <p>10.2. Cutting devices are sharpened according to OHS procedures</p> <p>10.3. Machine bed is cleaned ready for next run</p> <p>10.4. Cutting devices and knives are cleaned or replaced ready for next run</p> <p>10.5. All units are disengaged and cleaned ready for next run</p> <p>10.6. <i>Adhesive</i> or glue system is washed up ready for next run, and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>10.7. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run OR</p> <p>10.8. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>10.9. Production records or other documentation</p>

ELEMENT	PERFORMANCE CRITERIA
	are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication by accurately completing production records according to enterprise procedures
- problem solving by identifying and communicating problems with the operations of the converting/finishing machines
- interpreting results from gathered information or evidence and making adjustments to equipment
- planning and organising by cleaning a converting/finishing machine prior to commencement of the next run
- teamwork by maintaining the production process in association with others
- use of technology by monitoring and adjusting cutting edges, knives and or dies

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- OHS factors that should be considered in the transport and delivery areas of the machine
- procedures that will ensure smooth transport of sections through the machine
- steps that can be taken to ensure smooth delivery of sections
- important factors to consider when setting the feeder
- the setting of the double/misfeed sheet calliper system
- the different types of sheet/section delivery systems
- the largest and smallest sheet or section size that can be run through this machine
- areas of the machine that should be adjusted to allow for 42 gsm stock
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife
- adjusting cutting pressure
- removing the waste (offcut) from the work area
- important points to monitor when maintaining the cutting process which will ensure that the machine can be kept running without interruption?
- OHS factors that must be considered when problem solving on the machine maintaining the cutting process

REQUIRED SKILLS AND KNOWLEDGE

- check needed when packing cutting devices
- procedure for correcting common machine faults
- adjustments if the cover is marked (scuffed) when trimming
- OHS factors that must be considered when using the folding machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine
- areas of the in-line process that should be monitored to assure the quality of the product
- OHS factors that must be considered when adjusting/correcting the machine
- causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if job is out-of-square
- communication action that should be instigated if the ink is too wet for production
- communication action that should be instigated if the job does not coincide with the sample
- parts of the machine that should be adjusted if the sheet is creasing
- OHS factors that should be considered when operating the machine
- factors that govern the speed at which the machine will operate
- indicators that the machine was in need of lubrication
- OHS factors that should be considered before readjusting the machine
- method of correction that is needed to prevent double sheet feeds
- circumstances the machine would need to be adjusted
- acceptable collating result
- items that must be checked against the client's sample
- OHS factors that must be considered when using hot melt adhesive
- safety clothing that is available for use when operating adhesive binders
- OHS factors that should be considered before readjusting the machines
- areas of the in-line process that should be monitored to assure the quality of the product
- sectors to observe to ensure that the production process is trouble-free and continuous
- the need for the machine to be adjusted
- adhesive binder, adhesive application adjustment
- straightening the wire feed of a wire stitcher
- possible reasons for the welding being unsuccessful for a high frequency welder
- quality aspects that should be considered in a completed adhesive-bound job
- quality aspects that should be considered in a completed high frequency welded job
- quality aspects that should be considered in a completed wire-stitched job
- ways of altered production to meet client requirements
- OHS factors that must be considered when maintaining the laminating and in-line

REQUIRED SKILLS AND KNOWLEDGE

processes

- assuring registration of laminating
- monitoring of the in-line processes to ensure a quality product
- laminating problems that may occur during the operation of the machine
- adjustments or correction procedures that may need to be made to ensure accurate operation of the process
- quality aspects that should be considered in a completed laminated job
- in Ways of altered production to meet client requirements
- OHS factors that must be considered when conducting machine shutdown procedures
- checks that are needed when waste is removed from the machine and surrounding area for disposal or recycling
- checks that are needed during the machine shutdown procedure
- checks that are needed when the cutting devices or knives are cleaned or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- materials that need to be cleaned from the machine
- preparing the finished work for dispatch
- keeping the machine clear of surface rust (condensation)
- features that need to be checked on the finished product
- common faults that cause product to be rejected, and how can they be fixed/avoided
- testing procedures that are available and why are they used
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly maintain substrate operation and complete relevant finishing process according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • competency must be demonstrated on any converting or finishing equipment (whether involving one process or a sequence of processes) • demonstrate all safety devices on the machine • on the chosen equipment TWO different jobs must be demonstrated preferably involving different types, sizes and weights of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria NOTE: in the case of stand alone minor flat-bed or rotary cutting processes (as in ICPCF231B Set up machine for basic flat-bed cutting and ICPCF235B Set up machine for basic rotary cutting) THREE processes must be demonstrated. • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE	
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Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example any converting, binding and finishing basic set up units.
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.
<i>Cutting or embossing process</i> may include:	<ul style="list-style-type: none"> flat-bed/rotary/trimming.
<i>Folding units</i> may include:	<ul style="list-style-type: none"> range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Collating units</i> may include:	<ul style="list-style-type: none"> range of suction and friction feed machines with manual, semi-automated, fully automated or computerised process control.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Laminating units</i> may include:	<ul style="list-style-type: none"> manual, semi-automated, fully automated and computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as numbering, date stamping that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg printing or coating) it should be assessed as such.
<i>Equipment</i> may include:	<ul style="list-style-type: none"> either single process machines or multiple process machines.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet or large or small book or section handling systems.
<i>Converting/finishing processes</i> may include:	<ul style="list-style-type: none"> single or multiple knife, manual or programmable 3- or 5-knife trimmers and spine trimmers flat-bed or rotary die or forme cutting,

RANGE STATEMENT	
	<p>embossing, flat-bed or rotary hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, pin perforating, indexing, round cornering</p> <ul style="list-style-type: none"> • single, parallel or continuous folding of sheets, book sections or other products of identical or varied form, weight, shape • collating/inserting of sheets or book sections of identical form, weight, shape • adhesive fastening such as cold and hot melt gluing, taping • mechanical fastening such as riveting, string and wire stitching, and wire binding • thermal fastening such as high frequency and heat welding • moisture, chemical and thermal cured and extrusion laminating processes.
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> • a range of machines with dies or cutting formes or 3-knife trimmers and spine trimmers with manual, semi-automated fully automated or computerised process control.
<i>Laminating adhesives</i> may include:	<ul style="list-style-type: none"> • single or two-component adhesives used in laminating.
<i>Shapes for die cutting</i> may include:	<ul style="list-style-type: none"> • simple or single shapes.
<i>Complexity for fastening</i> may include:	<ul style="list-style-type: none"> • basic refers to simple hand-fed or single-head adhesive and thermal machines, single-head mechanical machines.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF221C Set up and produce basic guillotined product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to perform basic manual guillotining.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to produce basic guillotined product.</p> <p>Knife installation is part of ICPCF321C Set up and produce complex guillotined product.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p> <p>1.4. Grip and lay edges of sheet are identified</p>
2. Check knife sharpness	<p>2.1. Knives are checked for appropriate sharpness</p> <p>2.2. Dull knives are reported and arrangements made for them to be changed</p> <p>2.3. Cutting sticks are replaced when necessary</p>
3. Set up machine for basic guillotining	<p>3.1. Guillotine is manually set up and adjusted according to job specifications</p> <p>3.2. Clamping pressures are set up and adjusted according to job specifications</p>
4. Conduct simple cut process	<p>4.1. Material to be used for sample is organised correctly</p> <p>4.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures</p>
5. Organise sample inspection and/or testing	<p>5.1. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>5.2. Results are interpreted to determine adjustment requirements</p> <p>5.3. Adjustment changes are carried out according to product and machine specifications</p>
6. Maintain basic guillotining process	<p>6.1. Knife and <i>cutting</i> stick condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>6.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>6.3. Registration of knives is monitored and adjusted to ensure quality of product meets the standard of the approved sample of the approved sample</p>
7. Maintain production process	<p>7.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>7.2. Production is maintained according to OHS</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>requirements, manufacturer's specifications and enterprise procedures</p> <p>7.3. Manual and/or automatic control is used according to job specifications</p> <p>7.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>7.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>7.6. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>7.7. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>7.8. Waste is sorted according to enterprise procedures</p>
8. Identify and rectify problems and faults	<p>8.1. Problems in guillotining machine operation are identified and reported according to enterprise procedures</p> <p>8.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>8.3. Guillotining machine operation is checked to ensure correct operation</p>
9. Conduct shutdown of production process	<p>9.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>9.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>9.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>9.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>9.5. Repair/adjustment is verified prior to resumption of operations</p>
10. Clean guillotining machine at end of run	<p>10.1. Knives are replaced and cleaned ready for next run</p> <p>10.2. Machine bed is cleaned ready for next run</p> <p>10.3. <i>Cutting units</i> are disengaged and cleaned ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	10.4. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication by accurately completing production records according to enterprise procedures
- problem solving by identifying and reporting faults in machine operation according to enterprise procedures
- planning and organising by setting up the machine in minimum time with minimal wastage
- teamwork by maintaining the production process in association with others and organising a sample inspection
- use of technology by setting up a machine for basic cutting

Required knowledge

- information concerning cutting that should be found in the job documentation or production control system
- OHS factors that must be considered when handling knife blades during the knife change operation?
- factors that indicate a new blade is needed
- problems arising from using a dull blade continuously
- identifying a sharp knife from a dull knife
- need to replace a cutting stick
- OHS factors that must be considered when setting up and operating the machine
- factors that should be considered when setting up a guillotine for cutting
- choosing correct clamping pressure for a given job
- OHS factors that must be considered when checking and adjusting the machine
- aspects of the cutting that result should be checked against the sample
- steps that should be taken if the cutting result does not coincide with the sample
- OHS factors that must be considered when maintaining the production process
- reporting procedures that should be followed if the machine malfunctions
- treat/dispose of guillotine waste
- part of the guillotine that should be checked if, after a cut, the top sheets are out-of-square?
- part of the guillotine that should be checked if, after a cut, the top sheets are creasing across the cut line?
- the need for machine lubrication
- information about correct types and methods of lubrication
- OHS factors that must be considered when shutting down or cleaning a machine
- special operations that are essential when shutting down the machine
- quality aspects that should be considered in a completed cutting job

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• machine manuals, safety and other documentation that are relevant to this task and where they are kept• documentation and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly produce basic guillotined product according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up (not including knife change) and produce TWO basic guillotined products (if possible one large sheet and one small sheet) according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU202C Prepare, load and unload product on and off machine • ICPSU207C Prepare machine for operation (basic) • ICPSU208C Operate and monitor machines (basic).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> single knife, manual guillotines
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> range of semi-automated, hand feed or delivery, low volume/speed guillotines
<i>Cutting sequence</i> may include:	<ul style="list-style-type: none"> simple cutting sequence
<i>Substrates</i> may include:	<ul style="list-style-type: none"> range of substrates in categories of: <ul style="list-style-type: none"> paper paperboard corrugated board plastics.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> large or small sheet handling systems

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPCF222C Set up and operate in-line cutter

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to safely set up and operate an in-line cutter set for high run jobs.
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Application of the Unit

Application of the unit	This unit requires the individual to safely set up and operate an in-line cutter set for high run jobs and to pack the product for the next stage in the process.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or process control system 1.2. Job is signed off from previous process and ready for mailing procedures 1.3. The <i>materials</i> are checked and in correct order for the job 1.4. Work area is safe and ready for production according to safety requirements
2. Set up job	2.1. Job specifications are entered into console according to job specifications 2.2. Guides and guards and cut depth are correctly set and positioned according to job specifications 2.3. Settings are checked against job specifications before production is commenced 2.4. Settings are tested with a product sample and adjustments are made if necessary
3. Operate in-line cutter	3.1. Product is loaded in correct position according to job specifications 3.2. Quality check is carried out and defective product is removed according to enterprise procedures 3.3. Adjustments are made when the quality standards are not met 3.4. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards
4. Pack cut product	4.1. Completed product is unloaded and checked for quality 4.2. Completed product is packed into labelled trays ensuring job/order continuity for transfer to the next process 4.3. Documentation relating to the product is completed correctly 4.4. The machine is cleared and stock put away

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read job specifications and to complete workplace documentation
- organising the job by organising materials in the correct order for the job prior to commencement
- working in a team by maintaining the production process in association with others
- using technology such as the computer console to select settings for the job
- problem solving by making adjustments to machine settings to improve the product's quality

Required knowledge

- waste disposal procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • safely operate an in-line cutter. The in-line cutter is set up to meet the job specifications with minimum downtime. The individual will monitor for quality during the process and at the end when packing the product • the individual will finish TWO complete jobs on an in-line cutter including packing the product for the next stage in the process • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to an in-line cutter.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Product/materials may include:

- books
- CD-ROMs
- DVDs
- sheet stock
- laminates
- film.

Machinery may include:

- an in-line cutter set for high run jobs.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF223C Set up machine for cutting (trimming)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up knife trimmers and spine trimmers.
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Application of the Unit

Application of the unit	This unit requires the individual to set up 3- or 5-knife trimmers or spine trimmers. Some equipment may also involve gathering (collating) and fastening, which may be assessed at the same time.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Install and replace cutting knives into machine	2.1. Appropriate knives are selected and secured to the machine 2.2. Dull blades are securely bolted into protective holder
3. Set up section transportation system	3.1. Feeder is set up and adjusted according to job specifications 3.2. Section pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer systems are set up and adjusted according to job specifications
4. Set up stacking system	4.1. Delivery is set up and adjusted according to job specifications 4.2. Section transfer and control system is set up and adjusted according to job specifications
5. Set up machine for trimming	5.1. Trimmer knives are set up and adjusted according to job specifications 5.2. Clamping pressures are set up and adjusted according to job specifications 5.3. Stops and lays are set to remove desired trim
6. Conduct sample run	6.1. Material to be used for sample is organised correctly 6.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 6.4. Results are interpreted to determine adjustment requirements 6.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read job specifications and to complete workplace documentation
- organising such as laboratory testing and preparing materials and equipment for production
- working in a team by maintaining the production process in association with others
- using technology setting up the machine for cutting and trimming
- problem solving by setting up and adjusting delivery system according to job specifications

Required knowledge

- information that should be found on a job ticket or production control system
- OHS factors that must be considered when handling knife blades during the knife change operation
- safety devices that must be used when replacing trimmer knives
- knives transportation to and from the machine
- recommended knife angles for the trimming machine
- factors that indicate a new blade is needed
- the effect of continually using a dull blade
- identifying a sharp knife from a dull knife
- the need to replace a cutting stick
- OHS factors that must be considered when setting up transportation systems
- belt timing readjustment
- adjustments to ensure book is fast against book stops
- book transport speed determination
- adjustment if the book is out-of-square
- adjustment if the book is scratching or "scuffing"
- OHS factors that must be considered when setting up three-knife stacking systems
- danger areas that exist at the delivery end of the book trimming machine
- problems that can be expected in the delivery area of the machine
- batching device activation
- OHS factors that must be considered when setting up the trimming unit
- machinery safeguards that are to be considered when setting up the trimmer
- clamp pressure determination for each job
- what evidence indicates that the clamp pressure is insufficient
- the need to replace the knives

REQUIRED SKILLS AND KNOWLEDGE

- important elements that must be considered when moving knives to suit a different size book
- machine adjustments to remove more offcut from the fore edge of the book
- machine adjustment to remove more offcut from the head and tail of the book
- important elements that must be considered when moving knives to suit maximum/minimum size
- correcting the following problems: book out-of-square, book scuffing, wrong sections, incorrect cover creasing, wrong wire stitch positions, wrong sheet/section sequence, wet ink problems, book spines "bursting", waste not transferring from cut line
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up trimming machines according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine <ul style="list-style-type: none"> • Book block trimmer OR single section copy trimmer (3-knife section gather/stitch/trim) OR • Single section copy trimmer (1- or 3-knife multiple flat sheet gather/fold/stitch/trim) • OR • 5-knife trimmer • on TWO occasions using: different grammage or thickness of section or books AND different size alterations (eg A4 to A5) • apply these operations according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none"> • ICPSU202C Prepare, load and unload product on and off machine • ICPSU207C Prepare machine for operation (basic).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • single or multiple knife, manual or programmable 3- or 5-knife trimmers and spine trimmers.
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> • range of semi-automated, automated or computerised 3- or 5-knife trimmers and spine trimmers.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF224C Produce cut (trimmed) product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a knife trimmed product using a single or multiple knife trimmer or spine trimmer.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a trimmed product, maintain the production process, monitor machinery for faults and problems, and rectify minor problems according to enterprise procedures.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of transportation system	1.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to the machine 1.2. Section pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet/section/book handling and efficient operation 1.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 1.4. Substrate is added to the process according to job specifications
2. Maintain section delivery system	2.1. Delivery is monitored and adjusted to ensure quality and efficient product delivery
3. Maintain cutting (trimming) process	3.1. Knife condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of knife(s) is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain production process	4.1. In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 4.4. Manual and/or automatic control is used according to job specifications 4.5. Performance is monitored and verified using the process control system according to enterprise procedures 4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 4.7. Process adjustments to eliminate problems are

ELEMENT	PERFORMANCE CRITERIA
	<p>reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems and faults	<p>5.1. Problems in cutting (trimming) machine operation are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Cutting (trimming) machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
7. Clean machine	<p>7.1. Knife(s), cutting sticks and machine bed are cleaned ready for next run</p> <p>7.2. Cutting machine is disengaged and cleaned ready for next run</p> <p>7.3. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.4. Section feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.5. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read job specifications and to complete workplace documentation
- planning and organising when shutting down equipment
- teamwork by maintaining operations with fellow workers
- using technology to set up and maintain machinery
- problem solving to identify and rectify problems

Required knowledge

- OHS factors that should be considered in the transport and delivery areas of the machine
- procedures that will ensure smooth transport of sections through the machine
- steps that can be taken to ensure smooth delivery of the sections
- OHS factors that should be considered while the trimming process is operational
- waste (offcut) removal from the work area
- procedures that will ensure that the machine can be kept running without interruption
- adjustments to be made if the cover is marked (scuffed)
- in-line processes associated with the machine.
- OHS factors that must be considered when conducting machine shutdown, maintenance and cleaning procedures
- checks to be made when waste is removed from the machine and surrounding area for disposal or recycling
- checks to be made during the machine shutdown procedure
- machine cleaning at the end of the run
- quality aspects that should be considered in a completed cutting job
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • produce accurately trimmed products within required production schedule timeframes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • use a three-knife trimming unit to complete THREE jobs of various types, sizes and thicknesses of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF221C Set up and produce basic guillotined product • ICPCF235C Set up machine for basic rotary cutting • ICPSU202C Prepare, load and unload product on and off machine

EVIDENCE GUIDE

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|--|---|
| | <ul style="list-style-type: none"> • ICPSU208C Operate and monitor machines (basic). |
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal • large or small book handling systems.
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • single or multiple knife • manual or programmable 3- or 5-knife trimmers • spine trimmers.
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> • range of semi-automated, automated or computerised 3-knife trimmers and spine trimmers.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF225C Set up machine for basic flat-bed die cutting or embossing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for basic flat-bed die cutting or embossing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic flat-bed die cutting or embossing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Prepare cutting or embossing devices	2.1. Appropriate cutting devices or dies are selected and secured to machine according to job specifications 2.2. Cutting devices or dies are registered and proofed according to job specifications 2.3. Cutting devices or dies are correctly mounted
3. Set up reel transportation system (OR Element 4)	3.1. Unwind reel is set up and adjusted according to job specifications 3.2. Webbing procedures are carried out according to job specifications 3.3. Web control system is set up and adjusted according to job specifications 3.4. Reels are spliced/joined according to job specifications 3.5. Folder and sheeter are set up and adjusted according to job specifications
4. Set up sheet transportation system (OR Element 3)	4.1. Feeder and delivery systems are set up and adjusted according to job specifications 4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 4.3. Transfer systems are set up and adjusted according to job specifications 4.4. Substrate is added to and removed from the process according to job specifications 4.5. Sheet transfer and control system is set up and adjusted according to job specifications
5. Set up machine	5.1. Flat-bed cutting or embossing devices are set up and adjusted according to job specifications 5.2. Cutting/embossing pressures are set up and adjusted according to job specifications 5.3. Machine lays are set to correct position for registration
6. Set up in-line units for basic processes	6.1. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications

ELEMENT	PERFORMANCE CRITERIA
	6.2. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
7. Conduct sample run	<p>7.1. Material to be used for sample is organised correctly</p> <p>7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>7.4. Results are interpreted to determine adjustment requirements</p> <p>7.5. Adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when reading and interpreting job specifications and completing workplace documentation
- planning by checking availability of all components and organising laboratory testing
- teamwork when giving assistance during the set up of major in-line printing/binding/converting units by maintaining operations with fellow workers
- using technology by adjusting the machine to facilitate accurate sheet pick-up and transportation
- problem solving by interpreting test results and adjusting the machine as required

Required knowledge

- information concerning die cutting or embossing would that you expect to find in the job documentation or production control system?
- checked needed when mounting cutting devices on a flat-bed
- checked needed when registering and proofing the cutting devices
- checked needed when securing the cutting devices to the machine
- criteria that determines the selection of particular cutting devices
- OHS concerns that are there when setting up reel transportation systems
- adjustments to the unwind reel that may be needed to suit various jobs
- important areas to be considered during webbing procedures
- OHS concerns that are there when setting up sheet transportation systems
- important areas to check during the feeder unit set up
- adjustments that can be made to the machine to facilitate accurate sheet pick-up and transportation
- important areas of the reel delivery system that may need to be adjusted according to job specifications
- steps that should be taken to ensure that the delivery system operates effectively
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the delivery system that should be observed to prevent damage to the finished product
- ways in which the folded sheets can be secured for dispatch
- OHS factors that must be considered when setting up cutting devices
- checked needed when setting up, adjusting and operating flat-bed cutting devices
- machine pressure
- machine cutting depths

REQUIRED SKILLS AND KNOWLEDGE

- adjustments needed to in-line units
- areas that should be checked to ensure the suitability of in-line processes
- details of the completed sample that should be examined to ensure conformance with the client's requirements
- product testing procedures that are available and how often should they be used
- common faults that can occur with the flat-bed cutting process
- factors that indicate a need for the replacement of knives/blades/cutting edges
- cutting edges storing to guard against damage and deterioration
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up a machine for basic flat-bed die cutting or embossing according to job specifications and within the production timeframe • demonstrate all safety devices on the machine • competency must be demonstrated on EITHER flat-bed die cutting OR embossing. For either process set up TWO jobs changing the type and size of substrates and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPSU207C Prepare machine for operation (basic)• ICPCF220C Produce basic converted or finished product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • flat-bed die • forme cutting • embossing.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> • a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> • simple or single shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF226C Produce basic flat-bed die cut or embossed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce either a flat-bed die cut or embossed product.
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Application of the Unit

Application of the unit	This unit requires the individual to produce either a flat-bed die cut or embossed product and then clean down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel (OR Element 2)	1.1. Reel stand and rewind reel are monitored and adjusted to ensure efficient continuous operation and to maintain correct tension and to ensure no marks, blemishes or damage to finished product 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job specifications 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain operation of sheet transportation system on sheet-fed machine (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to process according to job specifications
3. Maintain basic flat-bed cutting process	3.1. Cutting edge and knife condition are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of cutting devices and knife(s) is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.5. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample
4. Maintain production process	4.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule

ELEMENT	PERFORMANCE CRITERIA
	<p>4.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.3. Manual and/or automatic control is used according to job specifications</p> <p>4.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.6. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.7. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.8. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Problems in cutting (<i>flat-bed</i>) machine operation are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Cutting (flat-bed) machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.5. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean flat-bed cutting machine at end of run	<p>7.1. Cutting devices and knife(s) are cleaned or replaced ready for next run</p> <p>7.2. Cutting devices are sharpened</p> <p>7.3. Machine bed is cleaned ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>7.4. Cutting units are disengaged and cleaned ready for next run</p> <p>7.5. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when reading and interpreting job specifications and completing workplace documentation
- planning and organising by correctly organising the materials to be used
- teamwork by maintaining operations with fellow workers
- using technology by adjusting machine devices and transportation systems
- problem solving by interpreting test results and adjusting the machine as required

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife
- pressure adjustment
- OHS factors that must be considered when problem solving on the machine maintaining the cutting process
- checks needed when packing cutting devices
- procedure for correcting common machine faults
- OHS factors that must be considered when conducting machine shutdown procedures
- checks needed when waste is removed from the machine and surrounding area for disposal or recycling
- checks needed during machine shutdown procedures?
- checks needed when the cutting devices or knives are cleaned or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- production records that need to be kept or written up
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly produce either a flat-bed die cut or embossed product with different types and sizes of substrate and design of finished patterns according to job specifications and within the production timeframe • demonstrate all safety devices on the machine • competency must be demonstrated on EITHER flat-bed die cutting OR embossing. For either process produce TWO jobs with different types and sizes of substrate and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPSU202C Prepare, load and unload product on and off machine• ICPSU208C Operate and monitor machines (basic)• ICPCF225C Set up machine for basic flat-bed die cutting or embossing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • flat-bed die • forme cutting • embossing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> • a range of machines with dies or cutting and manual, semi-automated fully automated or computerised process control.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> • simple or single shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF227C Set up machine for basic rotary die cutting or embossing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for rotary die cutting or embossing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic rotary die cutting or embossing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p>
2. Mount rotary cutting or embossing devices	<p>2.1. Appropriate cutting devices or dies are selected and secured to machine according to job specifications</p> <p>2.2. Cutting devices or dies are registered and proofed</p> <p>2.3. Cutting devices or dies are correctly mounted</p>
3. Set up reel system	<p>3.1. Unwind and rewind reels are set up and adjusted according to job specifications</p> <p>3.2. Webbing procedures are carried out according to job specifications</p> <p>3.3. Web control system is set up and adjusted according to job specifications</p> <p>3.4. Reels are spliced/joined according to job specifications</p> <p>3.5. Folder and sheeter are set up and adjusted according to job specifications</p>
4. Set up sheet system	<p>4.1. Feeder and delivery systems are set up and adjusted according to job specifications</p> <p>4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications</p> <p>4.3. Transfer systems are set up and adjusted according to job specifications</p> <p>4.4. Substrate is removed from process according to job specifications</p>
5. Set up machine for basic rotary cutting	<p>5.1. Rotary cutting devices are set up and adjusted according to job specifications</p> <p>5.2. Cutting pressures are set up and adjusted according to job specifications</p> <p>5.3. Counter knives/anvils are set in correct position</p>
6. Set up in-line units for basic processes	<p>6.1. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications</p> <p>6.2. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)</p>

ELEMENT	PERFORMANCE CRITERIA
7. Conduct sample run	7.1. Material to be used for sample is organised correctly 7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Results are interpreted to determine adjustment requirements 7.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when reading and interpreting job specifications and completing workplace documentation
- planning and organising to ensure registration alignment of cutting devices or dies by correctly organising the materials to be used
- teamwork by giving assistance with the setting up of in-line units
- using technology by selecting appropriate cutting device or dies.
- problem solving when checking the availability of all job related components

Required knowledge

- information concerning rotary die cutting or embossing that would be expect in the job documentation or production control system
- checks needed when cutting devices are mounted on a cylinder
- checks needed when the cutting devices are attached to the machine
- OHS concerns that are there when setting up reel transportation systems
- adjustments to the unwind reel that may be needed to suit various jobs
- important areas to be considered during webbing procedures
- OHS concerns that are there when setting up sheet transportation systems
- important areas to check with the feeder unit set up
- important areas of the reel delivery system that may need to be adjusted according to job specifications
- steps that should be taken to ensure that the delivery system operates effectively
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- ways in which the finished product can be secured for dispatch
- OHS factors that must be considered when setting up cutting devices
- determining machine pressure
- determining machine cutting depths
- the need to adjust in-line units
- details of the completed sample that should be examined to ensure conformance with the client's requirements
- storing the cutting edges, counter knives (anvils) to guard against damage and deterioration
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for basic rotary die cutting or embossing according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on EITHER rotary die cutting OR embossing. For either process set up TWO jobs changing the type and size of substrates and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPSU207C Prepare machine for operation (basic)• ICPCF220C Produce basic converted or finished product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> rotary die and forme cutting, embossing.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> simple or single shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF228C Produce basic rotary die cut or embossed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a basic product on a rotary die cutting or embossing machine.
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Application of the Unit

Application of the unit	This unit requires the individual to maintain the operation of machinery and the production process, to rectify minor problems and to shut down the equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel transportation system (OR Element 2)	1.1. Reel stand and rewind reel are monitored and adjusted to ensure efficient continuous operation and to maintain correct tension and to ensure no marks, blemishes or damage to finished product 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job specifications 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain operation of sheet transportation system (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to process according to job specifications
3. Maintain basic rotary die cutting or embossing process	3.1. Cutting edge and knife condition are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of cutting devices and knife(s) is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain production process	4.1. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.4. Manual and/or automatic control is used according to job specifications</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems and faults	<p>5.1. Problems in cutting (<i>rotary</i>) machine are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Cutting (rotary) machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. <i>Substrate</i> waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
7. Clean rotary cutting machine at end of run	<p>7.1. Cutting devices and knife(s) are cleaned or replaced ready for next run</p> <p>7.2. Cutting devices are sharpened correctly</p> <p>7.3. Machine bed is cleaned ready for next run</p> <p>7.4. Cutting units are disengaged and cleaned ready for</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>next run</p> <p>7.5. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read and interpret job specifications and complete workplace documentation
- planning and organising by following the correct shutdown sequence
- teamwork by conducting the shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- problem solving by monitoring and verifying performance using process control system

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- important points to monitor when maintaining the rotary cutting process
- sectors of the basic in-line printing/converting/binding/finishing process that may need to be monitored and adjusted to meet the approved standards
- production difficulties that can be expected during production runs
- OHS factors that must be considered when problem solving on the rotary machine cutting process
- the procedure for correcting common machine faults
- OHS factors that must be considered when conducting machine shutdown procedures
- checks needed when waste is removed from the machine and surrounding area for disposal or recycling
- checks needed when cutting devices or knives are cleaned, stored or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- quality aspects that should be considered in a completed rotary cutting job
- production areas that may have to be adjusted to meet client requirements
- machine manuals, safety and other documentation that are relevant to this task and where they are kept

REQUIRED SKILLS AND KNOWLEDGE

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|---|
| <ul style="list-style-type: none">• information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce basic products that meet job specifications and production timeframes using rotary cutting or embossing equipment demonstrate an ability to find and use information relevant to the task from a variety of information sources competency must be demonstrated on EITHER rotary die cutting OR embossing. For either process produce TWO jobs with different types and sizes of substrate and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores on and off machine ICPSU202C Prepare, load and unload product on and off machine ICPSU208C Operate and monitor machines (basic) ICPCF227C Set up machine for basic rotary die cutting or embossing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> rotary die and forme cutting, and embossing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting and manual, semi-automated fully automated or computerised process control.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> simple or single shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF231C Set up machine for basic flat-bed cutting

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up minor flat-bed cutting processes, including kiss cutting, hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, and pin perforating, indexing, round cornering.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a range of minor flat-bed cutting processes including kiss cutting, hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, and pin perforating, indexing, round cornering.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Mount flat-bed cutting devices	2.1. Cutting devices are correctly mounted 2.2. Cutting devices are registered and proofed 2.3. Appropriate cutting devices are selected and secured to machine according to job specifications
3. Set up reel system (OR Element 4)	3.1. Unwind and rewind reels are set up and adjusted according to job specifications 3.2. Webbing procedures are carried out according to enterprise procedures 3.3. Web control system is set up and adjusted according to job specifications 3.4. Reels are spliced/joined according to job specifications 3.5. Folder and sheeter are set up and adjusted according to job specifications
4. Set up sheet system (OR Element 3)	4.1. Feeder and delivery systems are set up and adjusted according to job specifications 4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 4.3. Transfer systems are set up and adjusted according to job specifications 4.4. Substrate is removed from process according to job specifications
5. Set up machine	5.1. Flat-bed cutting devices are set up and adjusted according to job specifications 5.2. Cutting pressures are set up and adjusted according to job specifications 5.3. Machine lays are set to correct position for registration
6. Assist in set up for other in-line processes	6.1. Assistance is given in set up of in-line printing/ converting/binding units. (NOTE: if entire set up is completed, refer to appropriate competency standards) 6.2. Minor in-line printing processes (date stamping, numbering) are set up correctly (if relevant)

ELEMENT	PERFORMANCE CRITERIA
7. Conduct sample run	7.1. Material to be used for sample is organised correctly 7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Results are interpreted to determine adjustment requirements 7.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills to read and interpret job specifications and to complete workplace documentation
- planning and organising by setting up the machine for basic flat-bed cutting
- teamwork by conducting the shutdown with fellow workers
- using technology by setting up the sheet delivery system
- problem solving by removing substrate from the process according to job specifications

Required knowledge

- information concerning flat-bed hole punching/indexing/creasing and scoring that you would expect to find in the job documentation or production control system
- checks needed when cutting devices are mounted on a cylinder
- checks needed when the cutting devices are attached to the machine
- OHS concerns that are there when setting up reel transportation systems
- adjustments to the unwind reel that may be needed to suit various jobs?
- webbing procedure considerations
- OHS concerns that are there when setting up sheet transportation systems
- important areas to check when the feeder unit is set up
- important areas of the reel delivery system that may need to be adjusted according to job specifications
- steps that should be taken to ensure that the delivery system operates effectively
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- ways in which the finished product can be secured for dispatch
- OHS factors that must be considered when setting up cutting devices
- determining machine pressure
- determining machine cutting depths
- the need to adjust in-line units
- details of the completed sample that should be examined to ensure conformance to the client's requirements
- cutting tools and equipment storage to guard against damage and deterioration
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machinery for basic flat bet cutting according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on any THREE different processes. For each process set up TWO jobs changing the type and size of substrates and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine

EVIDENCE GUIDE

- ICPSU207C Prepare machine for operation (basic)
- ICPCF220C Produce basic converted or finished product.

Since the component processes often occur as in-line processes they may also be assessed at the same time as virtually any printing, converting, binding and finishing or corrugating set up.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> perforating, sprocket hole punching, slotting, sheeting, slitting, creasing, scoring.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as numbering, date coding. Where a major in-line process is defined as a separate competency (eg folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF232C Produce basic flat-bed cut product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake minor flat-bed cutting processes including kiss cutting, hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, and pin perforating, indexing and round cornering.
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Application of the Unit

Application of the unit	This unit requires the individual to produce product involving a range of minor flat-bed cutting processes including kiss cutting, hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, and pin perforating, indexing and round cornering.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	<p>1.1. Reel stand and rewind sections are monitored and adjusted to ensure efficient continuous operation to maintain correct tension and to ensure no marks, blemishes or damage to finished product</p> <p>1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation</p> <p>1.3. Substrate is added to and removed from the process according to job specifications</p> <p>1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery</p>
2. Maintain sheet transportation system (OR Element 1)	<p>2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine</p> <p>2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation</p> <p>2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation</p> <p>2.4. Substrate is added to the process according to job specifications</p>
3. Maintain basic flat-bed cutting process	<p>3.1. Cutting edges and knife condition are monitored and adjusted to ensure the quality of product meets the standard of the approved sample Webbing procedures are carried out according to enterprise procedures</p> <p>3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample Reels are spliced/joined according to job specifications</p> <p>3.3. Registration of cutting devices and knife(s) is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p>
4. Maintain production process	<p>4.1. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>4.2. Production process is operated in association with</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>fellow workers and according to enterprise procedures and planned daily schedule</p> <p>4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.4. Manual and/or automatic control is used according to job specifications</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems and faults	<p>5.1. Problems in <i>flat-bed cutting</i> machine operation are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Flat-bed cutting machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
7. Clean flat-bed cutting machine at end of run	<p>7.1. Cutting devices and knife(s) are cleaned or replaced ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>7.2. Cutting devices are sharpened</p> <p>7.3. Machine bed is cleaned ready for next run</p> <p>7.4. Cutting units are disengaged and cleaned ready for next run</p> <p>7.5. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills by monitoring and verifying performance using process control systems
- planning and organising by monitoring and adjusting transportation systems
- teamwork by conducting the shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife
- cutting pressure adjustment
- OHS factors that must be considered when problem solving on the machine maintaining the cutting process
- checks needed when packing cutting devices
- the procedure for correcting common machine faults
- OHS factors that must be considered when conducting machine shutdown procedures
- checks needed when waste is removed from the machine and surrounding area for disposal or recycling?
- checks needed during the machine shutdown procedure
- checks needed when the cutting devices or knives are cleaned or replaced ready for the next run
- machine cleaning requirements at the end of the run
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce products involving a range of minor flat-bed cutting processes including: kiss cutting, hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, and pin perforating, indexing and round cornering according to job specifications and production timeframes demonstrate an ability to find and use information relevant to the task from a variety of information sources competency must be demonstrated on THREE different processes. For each process produce TWO jobs with different types and sizes of substrate and design of finished patterns, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores on and off machine

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- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU208C Operate and monitor machines (basic).

Since the component processes often occur as in-line processes they may also be assessed at the same time as virtually any printing, converting, binding and finishing or corrugating process.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> flat-bed hole punching, hole drilling, slotting, slitting, sheeting, creasing, scoring, pin perforating, indexing, round cornering.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies, cutting formes or drills and manual, semi-automated fully automated or computerised process control.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> simple or single shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF235C Set up machine for basic rotary cutting

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up minor rotary cutting processes.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a range of minor rotary cutting processes including kiss cutting, perforating, sprocket hole punching, slotting, sheeting, slitting, creasing, scoring.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Mount rotary cutting devices to cylinders	2.1. Cutting devices are correctly mounted 2.2. Cutting devices are registered and proofed 2.3. Appropriate cutting devices are selected and secured to machine according to job specifications
3. Set up reel system (OR Element 4)	3.1. Unwind and rewind reels are set up and adjusted according to job specifications 3.2. Webbing procedures are carried out according to enterprise procedures 3.3. Web control system is set up and adjusted according to job specifications 3.4. Reels are spliced/joined according to job specifications 3.5. Folder and sheeter are set up and adjusted according to job specifications
4. Set up sheet system (OR Element 3)	4.1. Feeder and delivery systems are set up and adjusted according to job specifications 4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 4.3. Transfer systems are set up and adjusted according to job specifications 4.4. Substrate is removed from process according to job specifications
5. Set up machine	5.1. Rotary cutting devices are set up and adjusted according to job specifications 5.2. Cutting pressures are set up and adjusted according to job specifications 5.3. Counter knives/anvils are set in correct position
6. Assist in set up for other in-line processes	6.1. Assistance is given in set up of in-line printing/ converting/binding units. (NOTE: if entire set up is completed, refer to appropriate competency standards) 6.2. Minor in-line printing processes (date stamping, numbering) are set up correctly (if relevant)

ELEMENT	PERFORMANCE CRITERIA
7. Conduct sample run	7.1. Material to be used for sample is organised correctly 7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Results are interpreted to determine adjustment requirements 7.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills by monitoring and verifying performance using process control systems
- planning and organising a sample run
- teamwork by conducting the shutdown with fellow workers
- using technology by setting up the machine for basic rotary cutting
- problem solving by removing substrate from the process according to job specifications

Required knowledge

- information concerning rotary hole punching/indexing/creasing and scoring that you would expect to find in the job documentation or production control system?
- checks needed when cutting devices are mounted on a cylinder
- checks needed when the cutting devices are attached to the machine
- OHS concerns that are there when setting up reel transportation systems
- adjustments to the unwind reel that may be needed to suit various jobs
- the important areas that are to be considered during webbing procedures
- OHS concerns that are there when setting up sheet transportation systems
- important areas to check when the feeder unit is set up
- important areas of the reel delivery system that may need to be adjusted according to job specifications
- steps that should be taken to ensure that the delivery system operates effectively
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- check needed when substrate is removed from the machine
- ways in which the finished product can be secured for dispatch
- OHS factors that must be considered when setting up cutting devices
- determining machine pressure
- determining machine cutting depths
- the need to adjust in-line units
- details of the completed sample that should be examined to ensure conformance to the client's requirements
- cutting tools and equipment storage to guard against damage and deterioration
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Embarrass
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machinery for basic rotary cutting according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on any THREE different processes. For each process set up TWO jobs changing the type and size of substrates and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine • ICPSU207C Prepare machine for operation (basic) • ICPCF220C Produce basic converted or finished

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	<p>product.</p> <p>Since the component processes often occur as in-line processes they may also be assessed at the same time as virtually any printing, converting, binding and finishing or corrugating set up.</p>
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> rotary kiss cutting, perforating, sprocket hole punching, slotting, sheeting, slitting, creasing, scoring.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as numbering, date coding. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF236C Produce basic rotary cut product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic rotary cut product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	<p>1.1. Reel stand and rewind section are monitored and adjusted to ensure efficient continuous operation and maintain correct tension and to ensure no marks, blemishes or damage to finished product</p> <p>1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation</p> <p>1.3. Substrate is added to and removed from the process according to job specifications</p> <p>1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery</p>
2. Maintain sheet transportation system (OR Element 1)	<p>2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine</p> <p>2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation</p> <p>2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation</p> <p>2.4. Substrate is added to process according to job specifications</p>
3. Maintain basic rotary cutting process	<p>3.1. Cutting edges and knife condition are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>3.3. Registration of cutting devices and knife(s) are monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p>
4. Maintain production process	<p>4.1. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.4. Manual and/or automatic control is used according to job specifications</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems and faults	<p>5.1. Problem in <i>rotary cutting</i> machine operation is identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Rotary cutting machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
7. Clean rotary cutting machine at end of run	<p>7.1. Cutting devices and knife(s) are cleaned or replaced ready for next run</p> <p>7.2. Cutting devices are sharpened</p> <p>7.3. Machine bed is cleaned ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>7.4. Cutting units are disengaged and cleaned ready for next run</p> <p>7.5. In-line printing/convertng/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills by monitoring and verifying performance using process control systems
- planning and organising when monitoring and adjusting transportation systems
- teamwork by conducting the shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- important points to monitor when maintaining the rotary cutting process
- sectors of the basic in-line printing/converting/binding/finishing process that may need to be monitored and adjusted to meet the approved standards
- production difficulties that can be expected during production runs
- OHS factors that must be considered when problem solving on the rotary machine cutting process
- the procedure for correcting common machine faults
- OHS factors that must be considered when conducting machine shutdown procedures
- checks needed when waste is removed from the machine and surrounding area for disposal or recycling
- checks needed when cutting devices or knives are cleaned, stored or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed rotary cutting job
- production areas that may have to be adjusted to meet client requirements
- machine manuals, safety and other documentation that are relevant to this task and

REQUIRED SKILLS AND KNOWLEDGE

where they are kept

- | |
|---|
| <ul style="list-style-type: none">• information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce rotary cut products that meet the job specifications, production time frames and quality requirements demonstrate an ability to find and use information relevant to the task from a variety of information sources competency must be demonstrated on any THREE different processes. For each process produce TWO jobs with different types and sizes of substrate and design of finished patterns, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores on and off machine ICPSU202C Prepare, load and unload product on and off machine ICPSU208C Operate and monitor machines (basic). <p>Since the component processes often occur as in-line processes they may also be assessed at the same time as</p>

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	virtually any printing, converting, binding and finishing or corrugating process.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • rotary die and forme cutting, kiss cutting, perforating, sprocket hole punching, slotting, slitting, sheeting, creasing, scoring and embossing
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> • a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control
<i>Shapes</i> may include:	<ul style="list-style-type: none"> • simple or single shapes
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of: <ul style="list-style-type: none"> • paper • pressure sensitive material • board • plastics and related films • metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF241C Set up machine for basic single or continuous folding

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for basic folding.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic folding.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to job specifications 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications
3. Set up sheet (OR Element 2)	3.1. Feeder and delivery systems are set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer systems are set up and adjusted according to job specifications 3.4. Sheet transfer and control system is set up and adjusted according to job specifications
4. Set up machine for basic single or continuous folding	4.1. Folding units are set up and adjusted according to job specifications 4.2. Folding rollers/belts/rails are set up and adjusted according to job specifications
5. Set up in-line units for basic processes	5.1. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications 5.2. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
6. Conduct sample run	6.1. Material to be used for sample is organised correctly 6.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Sample is visually inspected to determine adjustment requirements

ELEMENT	PERFORMANCE CRITERIA
	6.4. Results are interpreted to determine adjustment requirements 6.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when assisting with the set up of in-line units with other people, and reading and interpreting job specifications
- planning and organising when visually assessing the sample to determine adjustment requirements
- teamwork by conducting the shutdown with fellow workers
- using technology by setting up sheet delivery system on sheet-fed machine
- identifying problems and faults and developing solutions

Required knowledge

- information concerning folding requirements that would you expect to find in the job documentation or production control system
- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when setting folder transportation and delivery systems
- areas of the sheet-fed transportation system that should be monitored to ensure trouble-free operation
- areas of the delivery system that should be observed to prevent damage to the finished product
- ways that folded sheets can be secured for dispatch
- OHS factors that must be considered when setting up and/or adjusting the folding unit?
- substrate scratching/scuffing during transportation
- the speed of the machine
- problems that can be expected if the machine is running too fast
- checks of roller pressures for correctness
- adjustment if the sheet is out-of-square
- possible reasons for the sheet being out-of-square
- adjustment to ensure that the sheets are not smudging/"scuffing"
- adjustments if the sheet will not leave the folding unit
- OHS factors that must be considered when adjusting machine units
- steps that should be taken to ensure correct alignment of in-line processes/units
- adjustments that are made to keep units correctly positioned
- segments of quality assurance that would be inspected at the completion of the sample run

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• communication action that should be instigated if job is out-of-square• communication action that should be instigated if ink is too wet for production• communication action that should be instigated if the job does not coincide with the sample• machine manuals, safety and other documentation that are relevant to this task and where they are kept• information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for basic folding according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up TWO jobs (if possible using different sizes and weights of substrate) EITHER with a single fold to run continuously OR a single quire fold on a sheet gather/stitch/fold/trim machine OR an automatic web-fed machine to achieve a single fold according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and

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off machine

- ICPSU207C Prepare machine for operation (basic)
- ICPCF220C Produce basic converted or finished product.

Depending on the configuration of equipment and types of jobs, the following units may also be assessed at the same time:

- ICPCF231C Set up machine for basic flat-bed cutting
- ICPCF235C Set up machine for basic rotary cutting
- ICPCF261C Set up machine for basic adhesivemechanical or thermal fastening
- ICPCF320C Produce complex converted or finished product
- ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Folding process</i> may include:	<ul style="list-style-type: none"> single, parallel or continuous folding.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF242C Produce basic single or continuous folded product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic folded product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. A Substrate is added to the process according to job specifications
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to the process according to job specifications
3. Maintain production process	3.1. Registration and squareness of fold are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Basic <i>in-line</i> printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.4. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.5. Manual and/or automatic control is used according to job specifications 3.6. Performance is monitored and verified using the process control system according to enterprise procedures 3.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.8. Process adjustments to eliminate problems are reported according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>3.9. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>3.10. Waste is sorted according to enterprise procedures</p>
4. Identify and rectify problems and faults	<p>4.1. Problems in <i>folding</i> (single/continuous) machine operation are identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>4.3. Folding (single/continuous) machine operation is checked to ensure correct operation</p> <p>4.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>4.5. Repair/adjustment is verified prior to resumption of operations</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
6. Clean folding (single/continuous) machine at end of run	<p>6.1. Folding units are disengaged and cleaned ready for next run</p> <p>6.2. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>6.3. Reel feed and transportation systems are disengaged and cleaned ready for next run</p> <p>6.4. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>6.5. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when monitoring and verifying performance using process control systems
- planning and organising when monitoring and adjusting transportation systems
- teamwork when conducting the shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when using the folding machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine
- areas of the in-line process that should be monitored to assure the quality of the product
- OHS factors that must be considered when adjusting/correcting the machine
- TWO causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if job is out-of-square
- communication action that should be instigated if ink is too wet for production
- communication action that should be instigated if the job does not coincide with the sample
- part(s) of the machine that should be adjusted if the sheet is creasing
- OHS factors that must be considered when cleaning the machine
- important tasks that must be performed to correctly shut down the machine
- finished work preparation for dispatch
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• quality aspects that should be considered in a completed folded job• alterations needed to production to meet client requirements• machine manuals, safety and other documentation that are relevant to this task and where they are kept• information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Produce a single or continuous folded product that meets the job specifications, production timeframes and quality requirements • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Produce TWO jobs (if possible using different sizes and weights of substrate) EITHER with a single fold to run continuously OR a single quire fold on a sheet gather/stitch/fold/trim machine OR an automatic web-fed machine to achieve a single fold, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine

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- ICPSU208C Operate and monitor machines (basic)
- ICPCF241C Set up machine for basic single or continuous folding
ICPCF320B Produce complex converted or finished product
- ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>In-line processes</i> may include:</p>	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<p><i>Folding process</i> may include:</p>	<ul style="list-style-type: none"> single, parallel or continuous folding a range of machines with manual, semi-automated, fully automated or computerised process control.
<p><i>Substrate type</i> may include:</p>	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<p><i>Substrate handling</i> may include:</p>	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF243C Set up machine for basic collating or inserting (sheet/section)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for basic collating, gathering or inserting of sheets or sections.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic collating, gathering or inserting of sheets or sections and is appropriate for binding and finishing operations, mail houses and newspapers
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up sheet/section system	2.1. Feeder and delivery systems are set up and adjusted according to job specifications 2.2. Double/misfeed detectors are set up according to job specifications 2.3. Sheet/section pick-up, transfer and transportation system is set up and adjusted according to job specifications 2.4. Transfer systems are set up and adjusted according to job specifications
3. Set up machine and conduct sample run	3.1. Collating/inserting system is set up and adjusted according to job specifications 3.2. Material to be used for sample is organised correctly 3.3. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures
4. Organise sample inspection and/or testing	4.1. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 4.2. Results are interpreted to determine adjustment requirements 4.3. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when monitoring and verifying performance using process control systems and reading and interpreting job specifications
- planning and organising when setting up the sheet/section delivery system according to job specifications
- teamwork when conducting the shutdown with fellow workers
- using technology by using the double/misfeed sheet calliper system
- identifying problems and faults and developing solutions, for example interpreting the results of tests and determining adjustment requirements

Required knowledge

- important information concerning collating that will be included in the job documentation or production control system
- OHS factors that need to be considered when setting up sheet/section transportation and delivery systems
- important factors to consider when setting up the feeder
- the setting up of the double/misfeed sheet calliper system
- considerations needed to ensure smooth transportation and delivery of the sheets or sections through the machine
- the names of the different types of sheet/section delivery systems
- the largest and smallest sheet or section size that can be run through this machine
- areas of the machine that should be adjusted to allow for 42 gsm stock
- the major OHS factors to consider when running this machine
- factors that govern the speed at which the machine can operate
- indicator that the machine was in need of lubrication
- OHS factors that need to be considered before readjusting the machine
- an acceptable collating result
- the cause of sheets creasing in the machine delivery
- adjustment that should be made to the machine to alleviate "bruising" of NCR paper
- circumstances that the machine would need to be adjusted
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Correctly set up machines for basic collating or inserting according to job specifications and within the production timeframe • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Demonstrate all safety devices on the machine • Set up a collating or inserting machine for basic collating or inserting for TWO different jobs (if possible ONE sheet and ONE section) involving at LEAST FOUR or FIVE products, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product • ICPSU202C Prepare, load and unload product on and off machine

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	<ul style="list-style-type: none"> • ICPSU207C Prepare machine for operation (basic). <p>Depending on the configuration of equipment and types of jobs, the following units may also be assessed at the same time:</p> <ul style="list-style-type: none"> • ICPCF223C Set up machine for cutting (trimming) • ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening • ICPCF320C Produce complex converted or finished product • ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Collating/inserting</i> process may include:	<ul style="list-style-type: none"> • collating/inserting of sheets, book sections or other products of identical or varied form, weight, shape.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • large or small sheet/sections.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF244C Produce basic collated or inserted (sheet/section) product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a basic collated or inserted sheet or section product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of sheet/section transportation system on machine	1.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 1.2. Sheet/section pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 1.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 1.4. Substrate is added to process according to job specifications
2. Maintain production process	2.1. Collating or inserting process is monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 2.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 2.4. Manual and/or automatic control is used according to job specifications 2.5. Performance is monitored and verified using the process control system according to enterprise procedures 2.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 2.7. Process adjustments to eliminate problems are reported according to enterprise procedures 2.8. Waste is sorted according to enterprise procedures 2.9. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample
3. Identify and rectify problems and faults	3.1. Problem in collating or inserting (sheet/section) machine is identified and reported according to enterprise procedures 3.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level

ELEMENT	PERFORMANCE CRITERIA
	<p>3.3. Collating or inserting (sheet/section) machine operation is checked to ensure correct operation</p> <p>3.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>3.5. Repair/adjustment is verified prior to resumption of operations</p>
4. Conduct shutdown of production process	<p>4.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>4.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>4.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
5. Clean (sheet/section) machine at end of run	<p>5.1. Collating or insert machine is cleaned ready for next run</p> <p>5.2. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>5.3. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>5.4. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when monitoring and verifying performance using process control systems and reading and interpreting job specifications
- planning and organising when setting up the sheet/section delivery system according to job specifications
- teamwork when conducting the shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- identifying problems and faults and developing solutions

Required knowledge

- OHS factors that should be considered when operating the machine
- factors that govern the speed at which the machine will operate
- OHS factors that should be considered before readjusting the machine
- method of correction that is needed to prevent double sheet feeds
- circumstances that the machine needs to be adjusted
- checks needed when shutting down the machine correctly
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- an acceptable collating result
- items that must be checked against client's sample
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Produce a collated product that meets job specifications, production timeframes and quality standards • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Use a collating machine for basic collating (gathering and/or inserting) for TWO different jobs (if possible ONE sheet and ONE section) involving at LEAST FOUR or FIVE products, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF242C Produce basic single or continuous folded product • ICPSU202C Prepare, load and unload product on and off machine • ICPSU208C Operate and monitor machines (basic).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> large or small sheet/section handling systems.
<i>Collating process</i> may include:	<ul style="list-style-type: none"> collating/inserting of sheets or book sections of identical form, weight, shape.
<i>In-line process</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Collating units</i> may include:	<ul style="list-style-type: none"> a range of suction and friction feed machines with manual, semi-automated, fully automated or computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF245C Set up and produce hand-collated or -inserted product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to hand collate or insert product.
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Application of the Unit

Application of the unit	This unit requires the individual to produce hand collated or inserted product.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked 1.4. <i>Collating/inserting</i> system is set up according to job specifications
2. Conduct sample run	2.1. Material to be used for sample is organised correctly 2.2. Collating or inserting system is operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures
3. Organise sample inspection and/or testing	3.1. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 3.2. Results are interpreted to determine adjustment requirements 3.3. Adjustment changes are carried out according to product specifications
4. Maintain production process	4.1. Hand collating process is monitored and adjusted to ensure quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 4.4. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 4.5. Process adjustments to eliminate problems are reported according to enterprise procedures
5. Clean work area at end of run	5.1. Collating area is cleaned ready for next run 5.2. Waste is sorted according to enterprise procedures 5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 5.4. Production records or other documentation are

ELEMENT	PERFORMANCE CRITERIA
	accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when adjusting production in consultation with clients and reading and interpreting job specifications from job documentation or production control systems
- planning and organising sample inspection and/or testing
- teamwork when maintaining the production process in association with fellow workers
- using technology by readjusting the collating system
- problem solving by anticipating production difficulties through preventive action

Required knowledge

- important information concerning this task that would be found on the production control job ticket
- steps that should be taken to ensure that the important features of the production control system are followed
- production records that need to be kept or written up
- information that should be included in this reporting procedure and why
- ergonomic and OHS factors that should be considered when setting up the job to facilitate ease of operation
- facilities that are available to assist with the picking up of product by hand
- precautions that should be taken when handling NCR paper
- methods that can be used to separate finished sets of product
- assistance to open of sections to be inserted
- adjustment that should be made to the set up to facilitate a two- or three-person operation
- printed images on sections that ensure correct sequencing
- how these images assure the correct sequence of sections
- steps that should be taken to ensure that important features of the production control system are followed
- areas of the finished product that should be inspected
- steps that should be taken if the test sample is incorrect
- processing remaining sheets (overs) at the completion of the job
- manuals, safety and other documentation that are relevant to this task, wherekept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Correctly set up and produce hand collated and inserted product according to job specifications and within the production timeframe • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Set up and collate TWO different jobs (at least FIVE products, and if possible ONE sheet job and ONE section job) by hand according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Collating/inserting process</i> may include:	<ul style="list-style-type: none"> • manual collating/inserting of sheets, book sections or other products of identical or varied form, weight, shape.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • large or small sheet/sections.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for basic adhesive, mechanical or thermal fastening. Some equipment may also involve cutting, trimming, folding and/or gathering (collating) which may be assessed at the same time.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic adhesive, mechanical or thermal fastening.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and delivery reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to job specifications 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications
3. Set up sheet/section system (OR Element 2)	3.1. Feeder and delivery systems are set up and adjusted according to job specifications 3.2. Sheet/section pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer systems are set up and adjusted according to job specifications 3.4. Substrate is removed from the process according to job specifications 3.5. Sheet/section transfer and control system is set up and adjusted according to job specifications
4. Set up equipment and in-line units	4.1. Fastening system is set up and adjusted according to job specifications 4.2. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications 4.3. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
5. Conduct sample run	5.1. Raw material to be used for sample is organised correctly 5.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 5.3. Sample is visually inspected and/or tested or

ELEMENT	PERFORMANCE CRITERIA
	laboratory testing is organised according to enterprise procedures 5.4. Results are interpreted to determine adjustment requirements 5.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when organising a laboratory test if required and reading and interpreting job specifications
- planning and organising when conducting a sample run
- teamwork by giving assistance with setting up in-line units
- using technology by setting up and adjusting the fastening system according to job specifications
- problem-solving by interpreting sample results to determine adjustment requirements

Required knowledge

- information concerning binding requirements that would you expect to find in the job documentation or production control system
- information interpretation to ensure smooth workflow throughout the factory
- elements that must be considered when planning a binding sample
- OHS areas that must be addressed when setting up these areas of the machine
- webbing procedures commonly used in the transportation area
- areas to consider when setting up the web control system
- problem areas likely to be encountered when setting up the sheeter
- OHS factors that must be considered when setting up the delivery systems
- special delivery problems that are associated with adhesive machines
- overcoming these problems
- checks needed when using the delivery systems present on the various machines
- ways in which the completed work can be secured for dispatch
- OHS areas that must be addressed when setting up the machine
- OHS safeguards that are necessary with hot melt adhesives
- correct binding technique for a job
- the methods of adhesive metering present on the machine
- care that should be taken to ensure a neat and clean adhesive binding job
- parts of the wire stitcher that would need to be adjusted to process books of different thicknesses
- positioning of the wire stitches on the book
- the difference between a staple and a wire stitch
- determining the appropriate wire calliper for a particular job
- OHS factors that must be addressed when setting up these areas of the machine
- in-line units that are available for these binding processes

REQUIRED SKILLS AND KNOWLEDGE

- OHS factors that should be considered before readjusting the machine
- circumstances under which the machine would need to be adjusted
- quality aspects that should be considered in the completed binding job
- steps that should be taken to ensure that important features of the production control system are addressed
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Correctly set up machine for basic fastening according to job specifications and within the production timeframe • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Demonstrate all safety devices on the machine • Set up machine on TWO occasions for adhesive OR mechanical OR thermal fastening, using different weights and sizes of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these. • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine • ICPSU207C Prepare machine for operation (basic)

EVIDENCE GUIDE

- ICPCF220C Produce basic converted or finished product.

Depending on the configuration of equipment and types of jobs, virtually any other converting, binding and finishing set up unit can be assessed at the same time.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Fastening processes</i> may include:	<ul style="list-style-type: none"> • adhesive fastening such as cold and hot melt gluing, taping • mechanical fastening such as riveting, string and wire stitching, and wire binding • thermal fastening such as high frequency and head welding.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • basic refers to simple hand-fed or single-head adhesive and thermal machines, single-head mechanical machines.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF262C Produce basic adhesive, mechanical or thermal fastened product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic adhesive, mechanical or thermal fastened product. Some equipment may also involve cutting, trimming, folding and/or gathering (collating) which may be assessed at the same time.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to process according to job specifications
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operations 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to process according to job specifications
3. Maintain basic adhesive/mechanical/thermal fastening process	3.1. Registration of fastening is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.2. Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample OR 3.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample OR 3.4. Power current and dwell time is monitored and adjusted to ensure quality of product meets the standard of the approved sample adjusted according to job specifications
4. Maintain production process	4.1. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.3. Production is maintained according to OHS requirements, manufacturer's specifications and

ELEMENT	PERFORMANCE CRITERIA
	<p>enterprise procedures</p> <p>4.4. Manual and/or automatic control is used according to job specifications</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems and faults	<p>5.1. Problems in adhesive/mechanical/thermal fastening machine are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Adhesive/mechanical/thermal fastening machine operation is checked to ensure correct operation</p> <p>5.4. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.6. Repair/adjustment is verified prior to resumption of operations</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
7. Clean machine at end of run	<p>7.1. Mechanical <i>fastening unit</i> is disengaged and cleaned ready for next run</p> <p>7.2. Thermal fastening unit is disengaged and cleaned ready for next run</p> <p>7.3. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory</p>

ELEMENT	PERFORMANCE CRITERIA
	requirements and enterprise procedures 7.4. In-line printing/converting/binding/finishing units are cleaned ready for next run 7.5. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 7.6. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run 7.7. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when monitoring and verifying performance using process controls
- planning and organising when following the correct shutdown sequence
- teamwork when conducting shutdown with fellow workers
- using technology by adjusting machinery to improve performance
- identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when operating web machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when operating sheet-fed transportation and delivery systems
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when using hot melt adhesive
- safety clothing that is available for use when operating adhesive binders
- OHS factors that should be considered before readjusting the machine
- areas of the in-line process that should be monitored to assure the quality of the product
- sectors to observe to ensure that the production process is trouble-free and continuous
- when the machine needs to be adjusted
- adjustment of the adhesive application on the adhesive binder
- straightening the wire in the wire feed on the wire stitcher
- possible reasons for the welding being unsuccessful for a high frequency welder
- OHS factors that must be considered when shutting down and cleaning the machine
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- quality aspects that should be considered in a completed adhesive bound job

REQUIRED SKILLS AND KNOWLEDGE

- | |
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| <ul style="list-style-type: none">• quality aspects that should be considered in a completed high frequency welded job• quality aspects that should be considered in a completed wire stitched job• alterations needed to production to meet client requirements• machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Produce a basic fastened product that meets job specifications, production timeframes and quality standards • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • On TWO occasions produce adhesive OR mechanical OR thermal fastened products, using different weights and sizes of substrate, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine • ICPSU208C Operate and monitor machines (basic) • ICPCF261C Set up machine for basic adhesive,

EVIDENCE GUIDE	
	mechanical or thermal fastening.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Fastening process</i> may include:	<ul style="list-style-type: none"> • adhesive fastening such as cold and hot melt gluing, taping • mechanical fastening such as riveting, string and wire stitching, and wire binding • thermal fastening such as high frequency and heat welding.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • basic refers to simple hand-fed or single-head adhesive and thermal machines, single-head mechanical machines.
<i>Substrate</i> types may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF263C Set up and produce hand-fastened product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and produce hand-fastened product.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and produce hand-fastened product.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked 1.4. Fastening system is set up and adjusted according to job specifications
2. Conduct sample run	2.1. Raw material to be used for sample is organised correctly 2.2. Equipment is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 2.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 2.4. Results are interpreted to determine adjustment requirements 2.5. Adjustment changes are carried out according to product and equipment specifications
3. Maintain basic fastening (adhesive/mechanical) process (OR Element 4)	3.1. Registration of fastening is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.2. Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample OR 3.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain hand sewing process (OR Element 3)	4.1. Appropriate sewing supports are selected and spaced according to job specifications 4.2. Consistent thread tension is maintained during sewing 4.3. Sections are aligned at the head 4.4. Swelling is monitored and controlled
5. Maintain production process	5.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 5.2. Production is maintained according to OHS

ELEMENT	PERFORMANCE CRITERIA
	<p>requirements, manufacturer's specifications and enterprise procedures</p> <p>5.3. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>5.4. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>5.5. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>5.6. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.7. Waste is sorted according to enterprise procedures</p>
6. Identify and rectify problems and faults	<p>6.1. Problems in fastening (adhesive/mechanical) equipment are identified and reported according to enterprise procedures</p> <p>6.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>6.3. Fastening (adhesive/mechanical) equipment operation is checked to ensure correct operation</p>
7. Clean fastening equipment	<p>7.1. Mechanical <i>fastening unit</i> is disengaged and cleaned ready for next run OR</p> <p>7.2. Glue system is washed up ready for next run, and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>7.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>7.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>7.5. Repair/adjustment is verified prior to resumption of operations</p> <p>7.6. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when reporting faulty equipment performance and completing production records and other documentation
- planning and organising by selecting and spacing appropriate sewing support
- teamwork when maintaining the production process in association with other workers
- using technology by maintaining the fastening process
- identifying problems and developing solutions when disposing of liquid waste according to regulatory requirements and enterprise procedures

Required knowledge

- information concerning binding that you would expect to find in the job documentation or production control system
- OHS factors that need to be addressed when adjusting machinery
- circumstances a machine would need to be adjusted
- correct binding technique for a job
- safety measures that should be taken when setting up and operating this equipment
- parts of the wire stitcher that would need to be adjusted to process books of different thicknesses
- positioning of the wire stitches on the book
- difference between a staple and a wire stitch
- determining the appropriate wire calliper for a particular job
- care that should be taken to ensure a neat and clean adhesive binding job
- sewing stages positioning on the book
- the term "Kettle stitch"
- common sewing problems likely to be met when sewing a multi-section book
- purpose of sewing frames
- ensuring that hand sewing remains firmly together
- problems that are associated with oiling a wire stitcher
- problems that can occur if equipment is not properly cleaned and maintained
- steps that can be taken to ensure the smooth passage of work through the factory
- occurrence of production problems during processing
- measures that can be used to prevent production interruptions
- acceptable binding result
- expectations if wire stitches are not in the right position
- causes of a book to be "stab" stitched

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• special problems that may be encountered with "stab" stitching• "saddle" stitched or "flat"/"side" stitched determination• manuals, safety and other documentation that are relevant to this task and where they are kept• information that is included in these documents |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Correctly set up and produce hand-fastened products according to job specifications and within the production timeframe • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Demonstrate all safety devices on the machine • Competency must be demonstrated in TWO areas of: adhesive/thermal (drawn on cover or heated binding tape application), mechanical (wire stitcher or heavy duty stapler including saddle and flat stitching), hand sewing (single and multi-section books) • For each area set up equipment and produce TWO basic hand-fastened products of different thickness and spine length to demonstrate equipment adjustment, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of these • Assessment off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished

EVIDENCE GUIDE

	<p>product.</p> <p>Depending on the configuration of equipment and types of jobs, virtually any other converting, binding and finishing set up unit can be assessed at the same time.</p>
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Fastening process</i> may include:	<ul style="list-style-type: none"> • adhesive fastening such as: <ul style="list-style-type: none"> • cold and hot melt gluing • taping • mechanical fastening such as wire stitching, velo, comb and wire binding • hand section sewing.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of manually operated equipment.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • manual handling of large or small sheets.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF281C Set up machine for basic laminating

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for a range of laminating processes including laminating reel to reel, sheet to reel and reel to sheet.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for a range of laminating processes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to job specifications 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Sheeter is set up and adjusted according to job specifications
3. Set up sheet system (IF RELEVANT)	3.1. Feeder is set up and adjusted according to job specifications 3.2. <i>Sheet</i> /section pick-up and transportation system is set up and adjusted according to job specifications, if relevant 3.3. Transfer systems are set up and adjusted according to job specifications, if relevant
4. Set up laminating machine	4.1. Application system cylinder is set up and adjusted according to job specifications 4.2. <i>Adhesive</i> application system is set up and adjusted according to job specifications 4.3. Binding pressures are set and adjusted according to job specifications 4.4. Drying system is set up and adjusted according to job specifications
5. Set up in-line units	5.1. Minor <i>in-line</i> printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications 5.2. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
6. Conduct sample run	6.1. Raw material to be used for sample is organised correctly

ELEMENT	PERFORMANCE CRITERIA
	<p>6.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>6.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>6.4. Results are interpreted to determine adjustment requirements</p> <p>6.5. Adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when organising laboratory testing of samples and completing production records and other documentation
- planning and organising a sample run
- teamwork when assisting with the set up of major in-line units
- using technology to adjust the sheeter as required by the job specifications
- identifying problems and developing solutions when interpreting test results and determining adjustment requirements

Required knowledge

- information concerning laminating requirements that you would expect to find in the job documentation or production control system
- OHS areas that must be addressed when setting up these areas of the machine
- explain three problem areas likely to be encountered setting up the sheeter
- problems encountered when fitting supply films to mandrels
- factors that determine the setting of the binding pressures
- problems that can be encountered when the machine is in operation
- OHS areas that must be addressed when setting up these areas of the machine
- in-line units are available for the laminating process
- OHS factors to be considered before readjusting the machine
- quality aspects that should be considered in a completed laminating job
- location of machine manuals, safety and other documentation relevant to this task and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for a range of laminating processes according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up laminating machine to complete TWO or more ply laminating jobs on different substrates and of different sizes (if possible including one in-line process) in minimum time, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of practical tasks.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product • ICPSU201C Prepare, load and unload reels and cores on and off machine

EVIDENCE GUIDE

- ICPSU207C Prepare machine for operation (basic).

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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Sheet size</i> may include:	<ul style="list-style-type: none"> • where sheets are being laminated, this unit only applies when sheets are at least A4.
<i>Adhesives</i> may include:	<ul style="list-style-type: none"> • range of single or two-component adhesives used in laminating.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Laminating process</i> may include:	<ul style="list-style-type: none"> • moisture, chemical and thermal cured, and extrusion process.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of absorbent and non-absorbent, transparent and non-transparent substrates within the major categories of paper, board, corrugated board, plastics and metals.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel and large and small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF282C Produce basic laminated product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic laminated product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to the process according to job specifications 1.4. Reel rewind section is monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product 1.5. Substrate is removed from process according to job specifications 1.6. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain basic laminating process	2.1. Registration of laminating is monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.2. Pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample
3. Maintain production process	3.1. Basic in-line printing/coating/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.4. Manual and/or automatic control is used according to job specifications 3.5. Performance is monitored and verified using the process control system according to enterprise procedures 3.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention

ELEMENT	PERFORMANCE CRITERIA
	3.7. Waste is sorted according to enterprise procedures
4. Identify and rectify problems and faults	4.1. Problems in laminating machine are identified and reported according to enterprise procedures 4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level 4.3. Laminating machine operation is checked to ensure correct operation 4.4. Process adjustments to eliminate problems are reported according to enterprise procedures 4.5. Faulty performance of equipment is identified and reported according to enterprise procedures
5. Conduct shutdown of production process	5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements 5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 5.5. Repair/adjustment is verified prior to resumption of operations
6. Clean laminating machine at end of run	6.1. Laminating machine is disengaged and cleaned ready for next run 6.2. Adhesive system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures 6.3. In-line printing/coating/converting/binding/finishing units are cleaned ready for next run 6.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 6.5. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery
- communication skills when monitoring and verifying performance using process control systems
- planning and organising the correct shutdown sequence
- teamwork when conducting shutdown with fellow workers
- using technology to adjusting machinery to improve performance
- identifying problems and developing solutions

Required knowledge

- OHS factors that must be considered when operating web machine transport and delivery systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- checks needed when substrate is removed from the machine
- OHS factors that must be considered when maintaining the laminating and in-line processes
- assuring registration of laminating
- areas of the in-line processes that should be monitored to ensure a quality product
- laminating problems that may occur during the operation of the machine?
- adjustments or correction procedures that may need to be made to ensure accurate operation of the process
- important tasks that must be performed to correctly shut down the machine
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- quality aspects that should be considered in a completed laminated job
- alterations needed to production to meet client requirements
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • produce a basic laminated product that meets job specifications, production timeframes and quality standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • operate laminating machine to complete TWO two-ply jobs on different substrates and of different sizes (if possible including one in-line process) according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF281C Set up machine for basic laminating • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU208C Operate and monitor machines (basic).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel handling systems.
<i>Adhesives</i> may include:	<ul style="list-style-type: none"> • range of single or two component adhesives used in basic laminating.
<i>In-line process</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Laminating process</i> may include:	<ul style="list-style-type: none"> • moisture, chemical and thermal cured, and extrusion process.
<i>Laminating units</i> may include:	<ul style="list-style-type: none"> • range of manual, semi-automated, fully automated and computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of absorbent and non-absorbent, transparent and non-transparent substrates within the major categories of paper, plastics and metals.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF294C Set up profile cutting for envelope manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to correctly set up profile cutting equipment.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly set up profile cutting equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up profile cutting	<ul style="list-style-type: none"> 1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The correct materials are checked and available for the job 1.3. Adhesives are appropriate for the substrate, the application process and the machine 1.4. Work area is made safe and ready for production according to safety requirements 1.5. Profile cutting unit including profile knives, and where appropriate, fly knives, is set up according to job specifications 1.6. Blades are checked for sharpness and fitted as necessary, with units calibrated according to job specifications 1.7. Settings are checked against job specifications before production is commenced 1.8. Machine is <i>stepped</i> to ensure the profile is in the correct position and paper tension is accurate 1.9. The envelope shape and size conforms to job specifications and cuts are clean and meet quality requirements
2. Confirm the quality	<ul style="list-style-type: none"> 2.1. A sample from the machine is selected and checked to ensure it conforms to quality standards 2.2. Adjustments are made when the standards are not met 2.3. Samples are continuously monitored for defects and defects are removed 2.4. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.5. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards 2.6. The locations of all emergency shutdown buttons and triggers are known

Required Skills and Knowledge

Required skills

- OHS in relation to operating machinery
- communication skills when checking and confirming job specifications
- planning and organising setting up the machine before producing a sample
- teamwork when maintaining the production process by working in association with others
- using technology such as profile cutting units during the manufacture of envelopes
- problem solving when monitoring quality standards and making adjustments to machine settings

Required knowledge

- common faults associated with profile cutting, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up profile cutting units for manufacturing the following types of envelope: banker, open-sided wallet, open-ended pocket and automatic filling, according to job specifications and within the production timeframe • evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance in setting cutting profiles • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to profile cutting machinery used for cutting envelope profiles.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Stepped</i> may include:	<ul style="list-style-type: none"> inched, jogged, moved slowly through the process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF297C Clean sack and bag machines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to clean and check a sack and bag machine with minimum downtime.
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Application of the Unit

Application of the unit	This unit requires the individual to clean sack and bag machines with minimum downtime.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for cleaning	1.1. Machinery is safely switched off before cleaning is started 1.2. The cleaning equipment and <i>materials</i> most suitable for the machine are selected
2. Commence cleaning	2.1. Vacuum systems are checked for wear, opened and cleaned with compressed air and suction cups replaced if necessary 2.2. <i>Rollers</i> and drums are checked for wear and cleaned 2.3. Jaws and grippers are cleaned and checked for wear 2.4. Glue units are checked for wear and cleaned and excess glue and build-up removed from glue nipples 2.5. Glue applicators are cleaned and checked for wear 2.6. Hot melt residues are removed and glue pot is cleaned 2.7. Base and underneath of machine is cleaned of print ink and glue residue 2.8. Entire machine is blown down top to bottom and all grease and oil is removed from components, housings and the floor 2.9. Cleaning methods which are safe, avoid harm to the environment and which follow the manufacturer's instructions are used
3. Complete cleaning	3.1. Used cleaning agents and waste materials are disposed of safely 3.2. The machine is checked to ensure that it is safe to operate, when cleaning is finished, and all machine guarding is replaced or repositioned in safe working order 3.3. Obvious faults and wear are documented and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by reporting and documenting obvious faults and wear
- planning and organising by selecting cleaning equipment and materials most suitable for the machine
- teamwork when maintaining the production process by working in association with others
- using technology when checking vacuum systems for wear, cleaning them with compressed air and replacing suction cups if necessary
- problem solving when disposing safely of used cleaning agents and waste materials

Required knowledge

- common faults associated with sack or bag manufacturing machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures
- OHS procedures for using cleaning fluids

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • clean and check a sack and bag machine with minimum downtime according to job specifications and within the production timeframe • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance in cleaning sack and bag machines • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to a sack or bag making machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Rollers</i> may include:	<ul style="list-style-type: none"> draw rollers, path rollers, top and bottom transfer rollers, web rollers, side seam rollers, rollers on handle machines.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF298C Run and monitor sack and bag machines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to run and monitor sack and bag machines.
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Application of the Unit

Application of the unit	This unit requires the individual to run and monitor sack and bag machines with a prescribed range of functions involving known routines and procedures with some accountability for the quality of outcomes
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.	

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor production process	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The supply of materials throughout the run is maintained 1.3. Paper tension is monitored on an ongoing basis 1.4. Machine is run at optimum speed for maintaining quality outputs
2. Maintain quality	2.1. The locations of all emergency shutdown buttons and triggers are known 2.2. A sample from the machine is selected and checked to ensure it matches the required standards 2.3. Adjustments are made when the standards are not met 2.4. Each in-line process is monitored and minor adjustments are made during production, if required 2.5. Samples are continuously monitored for defects and defects are removed 2.6. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.7. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards
3. Identify problems	3.1. Faults which affect the quality of the sacks or bags are identified and rectified 3.2. Problems that reduce the rate of output are identified and fixed 3.3. Faults that affect the efficient operation of equipment are identified and resolved

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by monitoring wastage, keeping it to a minimum and correctly disposing of it
- teamwork when maintaining the production process by working in association with others
- using technology by monitoring and running sack and bag machines
- problem solving when selecting and checking a sample from the machine to ensure it conforms to the required quality standards

Required knowledge

- common faults associated with sack or bag manufacturing machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> maintain the throughput of sack or bag machines consistently over a period of time demonstrate all safety devices on the machine for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment machinery used to produce sacks and bags.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF3100C Run and monitor in-line tube making machine for sack or bag manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to run and monitor in-line tube making machines for the manufacture of sacks or bags.
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Application of the Unit

Application of the unit	This unit requires the individual to run and monitor in-line tube making machines for the manufacture of sacks or bags.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPCF298C Run and monitor sack and bag machines.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor throughput	1.1. Machine is <i>stepped</i> to ensure the scores and folds are in the correct position and paper tension is correct 1.2. Guide positions are monitored and adjusted if necessary to ensure adhesive is applied evenly and in the correct position 1.3. Multi-walls adhere correctly and without creasing 1.4. Paper moisture is monitored and correct moisture levels are maintained 1.5. Perforation occurs to the right depth and in the correct place 1.6. Creasing units and folding units work in the correct location 1.7. Folds and guillotine cuts are correctly placed 1.8. Glues dry at correct rates for in-line processes 1.9. All units run at the speed required by enterprise quality standards
2. Confirm quality of output	2.1. A sample from the machine is selected and checked to ensure it conforms to the required quality standards 2.2. Adjustments are made when the standards are not met 2.3. Each in-line process is monitored and minor adjustments are made during production, if required 2.4. Samples are continuously monitored for defects and defects are removed 2.5. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.6. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards
3. Confirm quality of output	3.1. Faults which affect the quality of the sacks or bags are identified and rectified 3.2. Problems that reduce the rate of output are identified and fixed 3.3. Faults that affect the efficient operation of equipment are identified and resolved

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by monitoring wastage, keeping it to a minimum and correctly disposing of it
- teamwork when maintaining the production process by working in association with others
- using technology by monitoring and running in-line tube making machines
- problem solving when selecting and checking a sample from the machine to ensure it conforms to the required quality standards

Required knowledge

- common faults associated with in-line tubing machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> run and monitor in-line tube making machines for the manufacture of sacks or bags run and monitor in-line tube making machines for the manufacture of sacks or bags in the workplace evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment access to in-line scoring, folding, and gluing machinery used in the manufacture of sacks and bags.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Stepped</i> may include:	<ul style="list-style-type: none"> • inched • jogged • moved slowly through the process.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues • papers • coated and uncoated pre-printed.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets • batch processing orders • job specs.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPCF3101C Run and monitor in-line bottom making machine for sack or bag manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to operate an in-line bottom making machine for the manufacture of sacks or bags with minimum downtime.
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Application of the Unit

Application of the unit	This unit requires the individual to operate an in-line bottom making machine for the manufacture of sacks or bags. The individual will anticipate, identify and rectify production problems with minimum downtime.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPCF298C Run and monitor sack and bag machines.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor production process	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The supply of <i>materials</i> throughout the run is maintained 1.3. Paper tension is monitored on an ongoing basis 1.4. Machine is run at optimum speed for maintaining quality outputs 1.5. Machine is adjusted to maintain quality of outputs
2. Monitor production	2.1. Correct perforation alignment is maintained 2.2. Pick-up rollers are working correctly and pressure and timing are maintained 2.3. Glue patch applicator or glue impression roller remains clear and dispenses the required amount of glue 2.4. Doctor blades and hot melt unit are operating correctly 2.5. Timing between all units is maintained or adjusted to avoid production problems 2.6. Overall production is monitored and adjustments are made to avoid production problems or improve production speeds
3. Maintain quality	3.1. Correct procedures for the removal of waste are followed according to enterprise procedures 3.2. Samples are continuously monitored for defects and defects are removed 3.3. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 3.4. The locations of all emergency shutdown buttons and triggers are known
4. Identify problems and rectify	4.1. Faults which affect the quality of the sacks or bags are identified and rectified 4.2. Problems that reduce the rate of output are identified and fixed 4.3. Faults that affect the efficient operation of equipment are identified and resolved

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by maintaining the supply of materials throughout the run
- teamwork when maintaining the production process by working in association with others
- using technology by operating an in-line bottom making machine for the manufacture of sacks or bags
- problem solving by identifying and fixing problems that reduce the rate of output

Required knowledge

- common faults associated with setting up in-line scoring, folding and gluing machines, what causes faults and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise production standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly operate an in-line bottom making machine for the manufacture of sacks or bags. The individual will anticipate, identify and rectify production problems with minimum downtime operate an in-line bottom making machine for the manufacture of sacks or bags according to job specifications. The individual will anticipate, identify and rectify production problems with minimum downtime to maintain production speeds.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment access to in-line bottom making machinery used in the manufacture of sack and bags.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Stepped</i> may include:	<ul style="list-style-type: none"> inched, jogged, moved slowly through the process.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF3102C Set up and monitor in-line scoring, folding and gluing machine for sack or bag manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up in-line scoring, folding and gluing machines used in the manufacture of sacks or bags.
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Application of the Unit

Application of the unit	This unit requires the individual to set up in-line scoring, folding and gluing machines used in the manufacture of sacks or bags.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPCF298C Run and monitor sack and bag machines.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and adjust units	<p>1.1. All details required for the job are checked and confirmed against <i>job specifications</i></p> <p>1.2. The <i>correct materials</i> and tools are checked and available for the job</p> <p>1.3. Adhesives are appropriate for the <i>substrate</i>, the application process and the machine</p> <p>1.4. Work area is safe and ready for production according to safety requirements</p> <p>1.5. Blades are sharp and fitted as necessary and units are calibrated according to job specifications</p> <p>1.6. Settings are checked against job specifications before production is commenced</p> <p>1.7. Machine is <i>stepped</i> to ensure the scores and folds are in the correct position and paper tension is corrected/adjusted</p>
2. Monitor throughput	<p>2.1. Once settings are fixed the unit is run at the speed required to produce a quality product</p> <p>2.2. Machine is monitored to ensure the scores and folds are in the correct position and paper tension is correct</p> <p>2.3. Guide positions are monitored to ensure adhesive is applied evenly and in the correct position</p> <p>2.4. Paper moisture is monitored and correct moisture levels are maintained</p> <p>2.5. Folds and guillotine cuts are correctly placed</p> <p>2.6. Glues dry at correct rates for substrate and adequate fibre tears are visible</p>
3. Confirm quality of output	<p>3.1. A sample from the machine is selected and checked to ensure it conforms to the required quality standards</p> <p>3.2. Adjustments are made when the standards are not met</p> <p>3.3. Each in-line process is monitored and minor adjustments are made during production, as necessary</p> <p>3.4. Samples are continuously monitored for defects and defects are removed</p> <p>3.5. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved</p> <p>3.6. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality</p>

ELEMENT	PERFORMANCE CRITERIA
	standards 3.7. The locations of all emergency shutdown buttons and triggers are known

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by ensuring that the work area is safe and ready for production according to safety requirements
- teamwork when maintaining the production process by working in association with others
- using technology by using an in-line scoring, folding and gluing machine
- problem solving by stepping the machine to ensure the scores and folds are in the correct position and paper tension is correct

Required knowledge

- common faults associated with in-line scoring, folding and gluing machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up and monitor in-line scoring, folding and gluing machines used in the manufacture of sacks or bags according to job specifications and within the production timeframe • set up and monitor in-line scoring, folding and gluing machines used in the manufacture of sacks or bags • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to in-line scoring, folding, and gluing machinery used in the manufacture of sacks and bags.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.
<i>Stepped</i> may include:	<ul style="list-style-type: none"> inched, jogged, moved slowly through the process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF3103C Run and monitor envelope manufacturing machines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to run and monitor envelope manufacturing machines.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and run envelope manufacturing machines involving known routines and procedures with some accountability for the quality of outcomes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor production process	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The <i>correct materials</i> and tools are checked and available for the job 1.3. The supply of materials throughout the run is maintained Work area is safe and ready for production according to safety requirements 1.4. Machine is run at optimum speed for maintaining quality outputs 1.5. Samples from the machine are selected and checked to ensure they conform with the required quality standards 1.6. Machines are adjusted to maintain quality of outputs
2. Maintain quality	2.1. Correct procedures for the removal of waste are followed according to enterprise procedures 2.2. Samples are continuously monitored for defects and defects are removed 2.3. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.4. The locations of all emergency shutdown buttons and triggers are known
3. Identify problems	3.1. Faults which affect the quality of the envelopes are identified and rectified 3.2. Problems that reduce the rate of output are identified and fixed 3.3. Faults that affect the efficient operation of equipment are identified and resolved

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by correctly disposing of waste during the production process
- teamwork when maintaining the production process by working in association with others
- using technology by running and monitoring envelope making machines
- problem solving by selecting and checking a sample from the machine to ensure it conforms to the required quality standards

Required knowledge

- common faults associated with envelope manufacturing machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures
- fault finding and correction documentation

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> maintain the throughput of envelope manufacturing machines consistently over a period of time demonstrate all safety devices on the machine for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these off the job assessment must be undertaken in a closely simulated workplace environment access to machinery used to produce envelopes.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Settings</i> may include:	<ul style="list-style-type: none"> paper tension, paper thickness, coated and non-coated materials, glue drying times, wastage allowance, substrate.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF3105C Produce single-faced web

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a single-faced web for corrugated board manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to produce single-faced web for corrugated board manufacture, inspect the quality, maintain production, identify and rectify problems and correctly shut down the machine.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Inspect and adjust quality	1.1. Inspection and/or testing of sample is organised 1.2. Sample is visually inspected and/or tested according to enterprise procedures 1.3. Results are interpreted to determine adjustment requirements 1.4. Adjustment changes are carried out according to product and <i>machine</i> specifications
2. Maintain operation of reel transportation system	2.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 2.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web and efficient operation 2.3. <i>Substrate</i> is added to the process according to job specifications
3. Maintain single facing process	3.1. Starch delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.2. Heat delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.3. Steam delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.4. Corrugating roll and pressure rolls are monitored and adjusted to suit corrugating process and according to job specifications 3.5. Speed of machine is optimised according to running conditions 3.6. Appropriate quantity of paper is run with a minimum of wastage
4. Maintain in-line process(es)	4.1. Coating units are monitored and adjusted to suit corrugating process and according to job specifications 4.2. Waxing units are monitored and adjusted to suit corrugating process and according to job specifications 4.3. Slitters are monitored and adjusted according to job specifications 4.4. Cut-off knife is monitored and adjusted according to job specifications

ELEMENT	PERFORMANCE CRITERIA
5. Synchronise machine operation	5.1. Machine down-time is minimised during flute, grade or deckle changes 5.2. Quality of board is maintained according to enterprise procedures or client acceptance standard 5.3. Machine speed is optimised and waste minimised
6. Maintain production process	6.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 6.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Manual and/or automatic control is used according to job specifications 6.4. Performance is monitored and verified using the process control system according to enterprise procedures 6.5. Starch performance is monitored and adjusted throughout production run 6.6. Quality checks are carried out on a regular basis and adjustments made as necessary
7. Identify and rectify problems	7.1. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 7.2. Process adjustments to eliminate problems are reported according to enterprise procedures 7.3. Faulty performance of equipment is identified and reported according to enterprise procedures 7.4. Waste is sorted according to enterprise procedures 7.5. Problems in corrugator operation are identified and reported according to enterprise procedures 7.6. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level 7.7. Corrugator operation is checked to ensure correct operation
8. Conduct shutdown of production process	8.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 8.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements 8.3. Solid and liquid waste is removed from operating

ELEMENT	PERFORMANCE CRITERIA
	<p>area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>8.4. All product is removed from operating area</p> <p>8.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>8.6. Repair/adjustment is verified prior to resumption of operations</p>
9. Clean and wash up	<p>9.1. <i>In-line</i> wax and coating units are cleaned ready for next run</p> <p>9.2. Starch delivery system is washed up ready for next run, and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>9.3. Reel feed and transportation systems are disengaged and cleaned ready for next run</p> <p>9.4. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when checking and confirming all details required for the job against job specifications
- planning and organising by shutting down equipment in the correct sequence
- teamwork when maintaining the production process by working in association with others
- using technology by operating and maintaining equipment
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- significant risks that are posed to workers in this activity
- measures that are employed to prevent injury and/or illness in the case of the above identified risks
- principle support systems on line to the corrugating machine
- effective control and monitoring of the corrugator by the operator
- sections of the single facer that have the higher potential for operational problems during the run
- product faults that are commonly found to arise during production runs and how can they be corrected
- settings monitoring and adjustment made during the run, for the following factors: in-feed, web alignment control, pre-conditioners, adhesive application, corrugation, single facer, steam delivery, heating of web and speed
- product factors that can be monitored visually/manually by staff operating end stages of the corrugator machine
- adjustments made in response to problems found by staff operating end stages of the corrugator machine
- functions that must be attended to for the wash-up and shutdown of the single facer for an idle period of at least two days
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce single-faced web for corrugated board manufacture, inspect the quality, maintain production, identify and rectify problems and correctly shut down machine perform at least TWO runs on the single facer to produce TWO different types/classes of product according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Assessment off the job must be undertaken in a closely simulated workplace environment in-line corrugating equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. This unit may be assessed at the same time as:</p> <ul style="list-style-type: none"> ICPCF2104C Set up single-faced web ICPCF220C Produce basic converted or finished product ICPCF231C Set up machine for basic flat-bed cutting ICPCF235C Set up machine for basic rotary cutting ICPCF281C Set up machine for basic laminating

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine.
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Machines</i> may include:	<ul style="list-style-type: none"> • range of corrugating machines with manual, semi-automated and fully automated process control systems.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide reel handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • range of wax and coating systems operations, slitters and cutters. Note that slitting and cutting may be separately assessable as flat-bed or rotary cutting.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of board or paper.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF3106C Set up machine for basic carton folding and gluing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for basic carton folding and gluing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for basic carton folding and gluing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up carton blank transportation system	1.1. Feeder is set up and adjusted according to job specifications 1.2. Carton blank pick-up and transportation system is set up and adjusted according to job specifications 1.3. Transfer systems are set up and adjusted according to job specifications
2. Set up carton delivery system	2.1. Delivery is set up and adjusted according to job specifications 2.2. Substrate is removed from process according to job specifications
3. Set up machine for basic folding and gluing (single/continuous)	3.1. Folding units are set up and adjusted according to job specifications 3.2. Folding rollers/belts/rails are set up and adjusted according to job specifications 3.3. Gluing system is set up and adjusted according to job specifications using either glue wheel or one glue head
4. Conduct sample run	4.1. Material to be used for sample is organised correctly 4.2. Machine is set up and operated according to OHS requirements, manufacturer's specifications and enterprise procedures to produce a specified sample Slitters are monitored and adjusted according to job specifications 4.3. Sample is visually inspected and/or tested for accuracy of folds, fibre tear, opening force, fluff and glue placement according to enterprise procedures
5. Readjust settings	5.1. Results are interpreted to determine adjustment requirements 5.2. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when reading and interpreting job requirements from job documentation or production control system
- planning and organising by setting up the carton blank transportation system before setting up for folding and gluing
- teamwork when maintaining the production process by working in association with others
- using technology by using carton folding and gluing machines
- problem solving by interpreting results to determine adjustment requirements

Required knowledge

- information concerning folding requirements that you would expect to find in the job documentation or production control system
- OHS factors that must be considered when setting up folder transportation and delivery systems
- areas of the sheet-fed transportation system that should be monitored to ensure trouble-free operation
- areas of the delivery system that should be observed to prevent damage to the finished product
- ways that folded sheets can be secured for dispatch
- OHS factors that must be considered when setting up and/or adjusting the folding unit
- causes of scratching/scuffing of substrate during transportation
- speed determination of the machine
- problems that can be expected if the machine is running too fast
- roller pressures checks for correctness
- adjustments made if the sheet is out-of-square
- possible reasons for the sheet being out-of-square
- adjustments made to ensure that the sheets are not smudging/"scuffing"
- adjustments made if the sheet will not leave the folding unit
- OHS factors that must be considered when adjusting the inkjet printer
- steps that should be taken to ensure correct alignment of the inkjet printer
- adjustments made to keep units correctly positioned
- OHS areas that must be addressed when setting up these areas of the machine
- OHS safeguards that are necessary with hot melt adhesives
- determining the correct binding technique for a job

REQUIRED SKILLS AND KNOWLEDGE

- methods of adhesive metering present on the machine
- care that should be taken to ensure a neat and clean adhesive binding job
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if the job is out-of-square
- communication action that should be instigated if ink is too wet for production
- communication action that should be instigated if the job does not conform to QA checking
- machine manuals and safety documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up machine to produce a range of simple straight line folded and glued cartons as required in normal production on, for example, a Royal 40, a Bobst Media or a Bobst Domino • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up machine on at least FOUR occasions for basic straight line folding and gluing of cartons with different weights and sizes of carton board according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • for example a Royal 40, a Bobst Media or a Bobst Domino.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Folding and gluing</i> may include:	<ul style="list-style-type: none"> • straight-line folding and gluing of cartons.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a Royal 40, a Bobst Media, a Bobst Domino.
<i>Carton board</i> may include:	<ul style="list-style-type: none"> • different weights and sizes of carton board.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF3107C Produce double-faced web

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a double-faced web for corrugated board manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to perform runs on the double backer machine, maintain production, identify and rectify problems and faults, and correctly shut down the machine.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.	

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Inspect and adjust quality	1.1. Inspection and/or testing of sample is organised 1.2. Sample is visually inspected and/or tested according to enterprise procedures 1.3. Results are interpreted to determine adjustment requirements 1.4. Adjustment changes are carried out according to product and <i>machine</i> specifications
2. Maintain operation of reel transportation system	2.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 2.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web and efficient operation 2.3. <i>Substrate</i> is added to the process according to job specifications
3. Maintain double facing process	3.1. Starch delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.2. Heat delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.3. Heat delivery system is monitored and adjusted to suit corrugating process and according to job specifications 3.4. Speed of machine is optimised according to running conditions 3.5. Appropriate quantity of paper is run
4. Maintain in-line process(es)	4.1. Waxing units are monitored and adjusted to suit corrugating process and according to job specifications 4.2. Coating units are monitored and adjusted to suit corrugating process and according to job specifications 4.3. Tape dispensing units are monitored and adjusted to suit corrugating process and according to job specifications 4.4. Slitters are monitored and adjusted according to job specifications 4.5. Cut-off knife is monitored and adjusted according to job specifications
5. Synchronise machine	5.1. Machine down-time is minimised during flute, grade

ELEMENT	PERFORMANCE CRITERIA
operation	or deckle changes 5.2. Quality of board is maintained according to enterprise procedures or client acceptance standard 5.3. Machine speed is optimised and waste minimised
6. Maintain production process	6.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 6.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Manual and/or automatic control is used according to job specifications 6.4. Performance is monitored and verified using the process control system according to enterprise procedures 6.5. Starch performance is monitored and adjusted throughout production run 6.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 6.7. Process adjustments to eliminate problems are reported according to enterprise procedures 6.8. Faulty performance of equipment is identified and reported according to enterprise procedures 6.9. Waste is sorted according to enterprise procedures 6.10. Quality checks of product are undertaken on a regular basis and adjustments made as required
7. Identify and rectify problems	7.1. Problems in corrugator operation are identified and reported according to enterprise procedures 7.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level 7.3. Corrugator operation is checked to ensure correct operation
8. Conduct shutdown of production process	8.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 8.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements 8.3. Solid and liquid waste is removed from operating area and recycled or disposed of, where required,

ELEMENT	PERFORMANCE CRITERIA
	<p>according to regulatory requirements and enterprise procedures</p> <p>8.4. All product is removed from operating area</p> <p>8.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>8.6. Repair/adjustment is verified prior to resumption of operations</p>
<p>9. Clean and wash up corrugator at end of run</p>	<p>9.1. <i>In-line</i> wax, coating and tape dispensing units are cleaned ready for next run</p> <p>9.2. Starch delivery system is washed up ready for next run, and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>9.3. Reel feed and transportation systems are disengaged and cleaned ready for next run</p> <p>9.4. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when reading and interpreting job requirements from job documentation or production control system
- planning and organising by shutting down equipment in the correct sequence
- teamwork when maintaining production processes in association with colleagues
- using technology by producing double-faced web on the corrugator
- problem solving by selecting and checking a sample from the machine to ensure it conforms to the required quality standards

Required knowledge

- significant risks that are posed to workers in this activity
- measures that are employed to prevent injury and/or illness in the case of the above identified risks
- principle support systems on line to the corrugating machine
- effective control and monitoring of the corrugator by the operator
- sections of the double backer that have the higher potential for operational problems during the run
- product faults that are commonly found to arise during production runs and how can they be corrected
- settings monitoring and adjustment made during the run, for the following factors: : in-feed, web alignment control, adhesive application, double backer, steam delivery, heating of web and speed
- product factors that can be monitored visually/manually by staff operating end stages of the corrugator machine
- adjustments made in response to problems found by staff operating end stages of the corrugator machine
- functions that must be attended to for the wash-up and shutdown of the single facer for an idle period of at least two days
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> perform runs on the double backer machine, maintain production, identify and rectify problems and faults, and correctly shut down the machine perform at least TWO runs on the double backer to produce TWO different types/classes of product, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Assessment off the job must be undertaken in a closely simulated workplace environment in-line double backer corrugating equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPCF2106C Set up double-faced web ICPCF220C Produce basic converted or finished product ICPCF231C Set up machine for basic flat-bed cutting ICPCF235C Set up machine for basic rotary cutting ICPSU201C Prepare, load and unload reels and cores on and off machine.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of corrugating machines with manual, semi-automated and fully automated process control systems.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide reel handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> range of wax and coating systems operations, slitters and cutters. Note that slitting and cutting may be separately assessable as flat-bed or rotary cutting.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of board or paper.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPCF3109C Produce complex folded and glued cartons

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex folded and glued products.
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Application of the Unit

Application of the unit	This unit requires the individual to produce complex folded and glued products and to correctly shut down and clean machinery when the job is completed.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of carton blank system	1.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to <i>machine</i> 1.2. Carton blank pick-up and transportation system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 1.3. Transfer systems are monitored and adjusted to ensure correct and continuous carton blank handling and efficient operation 1.4. Substrate is added to process according to job specifications 1.5. Delivery is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain complex carton folding and gluing process	2.1. Registration and accuracy of folds are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 2.2. Gluing process is monitored and adjusted to ensure accuracy of <i>glue</i> application and strength of adhesion to conform to quality standards
3. Maintain operation of production process	3.1. Production process is operated in association with fellow workers and according to enterprise specifications and planned daily schedule 3.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.3. Performance is monitored and verified using the process control system according to enterprise procedures 3.4. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.5. Process adjustments to eliminate problems are reported according to enterprise procedures 3.6. Faulty performance of equipment is identified and reported according to enterprise procedures 3.7. Waste is sorted according to enterprise procedures
4. Identify and rectify problems	4.1. Problems in folding and gluing machine operation are identified and reported according to enterprise requirements 4.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's

ELEMENT	PERFORMANCE CRITERIA
	<p>skill level</p> <p>4.3. Complex folding/gluing machine operation is checked to ensure correct operation</p>
<p>5. Conduct shutdown of production process</p>	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person, according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
<p>6. Clean folding/gluing machine at end of run</p>	<p>6.1. Folding unit is cleaned ready for next run</p> <p>6.2. Gluing unit is disengaged and cleaned ready for next run</p> <p>6.3. Transport and delivery systems are cleaned ready for next run</p> <p>6.4. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when reading and interpreting job requirements from job documentation or production control system
- planning and organising by setting up the carton blank transportation system before the carton delivery system
- teamwork when maintaining production processes in association with colleagues
- using technology by using carton folding and gluing machines
- problem solving by interpreting results to determine adjustment requirements

Required knowledge

Carton blank transportation and delivery systems

- OHS factors that must be considered when setting and/or operating folder/gluer transport and delivery systems
- areas of the feeder that should be monitored to ensure trouble-free operation?
- parts of the pick-up system that have to be adjusted to ensure accurate and continuous feeding
- areas of the delivery system that should be observed to prevent damage to the finished pr
- areas to continually observe to ensure the smooth trouble-free operation of the machine
- areas of the gluing unit that should be continuously monitored?
- OHS factors that must be considered when adjusting/correcting the machine
- causes of incorrect folding and how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- action that should be taken if viscosity of adhesive in gluing unit is too low/high
- adjustment of the of the glue application
- areas of the machine that should be adjusted if carton blank is creasing
- areas of the machine that should be adjusted if carton blanks are not entering the machine
- areas of the machine that should be adjusted if sheets are not neatly entering delivery
- OHS factors that must be considered when cleaning the machine
- checks made when correctly shutting down the machine
- checks made when the finished work is prepared for dispatch

REQUIRED SKILLS AND KNOWLEDGE

- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- recommended cleaning agents
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed folded carton
- steps that should be taken to ensure that important features of the production control system are followed
- altering production need to be altered to meet client requirements
- items to be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a range of complex cartons as required in normal production on a Royal 40, a Bobst Media or a Bobst Domino demonstrate an ability to find and use information relevant to the task from a variety of information sources produce THREE crashlock, six-corner and specialty work carton jobs, with different sizes and weights of carton board and including use of multiple gluing units, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Machines</i> may include:	<ul style="list-style-type: none"> royal 40, a Bobst Media or Bobst Domino with a computerised label printing unit.
<i>Glue</i> may include:	<ul style="list-style-type: none"> PVA and hot melt.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF311C Prepare for cutting forme and stripper making

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare for making cutting formes and strippers.
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Application of the Unit

Application of the unit	This unit covers preparation for making cutting formes and strippers.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for die and stripper making	<p>1.1. Die and stripper making requirements are identified and selected from die drawing or inspection</p> <p>1.2. Availability of all job related components is checked</p> <p>1.3. Materials chosen are appropriate for cutting forme design and the machine cutting forme/stripper is to be used on</p>
2. Prepare materials	<p>2.1. Cutting forme/stripper making materials are assessed and cut to size</p> <p>2.2. Cutting forme/stripper making materials are correct size for production requirements</p> <p>2.3. Stripper backing material is correct size for production requirements</p> <p>2.4. Product design is drawn onto cutting forme blank to match cutting forme design</p> <p>2.5. Drawing is in register on cutting forme blank</p> <p>2.6. Drawing is in register on stripper backing material</p>
3. Prepare lay down sheet and cutting forme tracing	<p>3.1. Lay down sheet and cutting forme tracing are glued correctly onto cutting forme blank</p> <p>3.2. Lay down sheet is in register on cutting forme blank</p> <p>3.3. Cutting forme tracing matches product design</p>
4. Design location of bridges, stripping rule and mounting holes	<p>4.1. Cutting forme maintains required strength</p> <p>4.2. Waste is cut to suit waste extraction system</p> <p>4.3. Mounting holes register with holes in cutting forme blank</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when interpreting the drawings and transferring the design onto the cutting forme blank, and when identifying die and stripper making requirements from the drawing
- planning and organising by identifying resource requirements and choosing materials relevant to the task
- teamwork when preparing cutting formes and strippers in a workplace context
- using technology by gluing the lay down sheet tracing onto cutting forme blank
- problem solving by cutting waste to suit the waste extraction system

Required knowledge

- special requirements that may be identified from planner's drawings
- OHS factors that must be considered when cutting materials
- names of the substrates commonly cut by these cutting formes
- affect of different substrates on forme setting
- determining the size of the stripper backer material
- care that should be taken when drawing design onto blank
- assuring registration when drawing design onto blank
- correct registration achievement when gluing and laying down the cutting forme tracing onto the cutting forme blank
- factors that determine the thickness of the stripping rule
- factors that determine the position and number of the bridges
- factors that determine the position and number of the mounting holes
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • prepare materials for cutting formes according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare materials for TWO cutting formes (ONE large ONE small) to accommodate TWO differing typically used substrates using all of the relevant processes according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF312C Set cutting forme and strippers.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Complexity of process</i> may include:	<ul style="list-style-type: none"> varied cutting formes according to manufacturer's differentiations.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> initiative and judgment are demonstrated.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Quality processes</i> and standards may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF312C Set cutting forme and strippers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set cutting formes and strippers.
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Application of the Unit

Application of the unit	This unit requires the individual to set cutting formes and strippers, proofing the forme and maintaining both the cutting forme and strippers.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Cut cutting forme wood	1.1. Bridge holes are accurately drilled 1.2. Saw cuts accurately match line drawing on cutting forme blank 1.3. Holes are reinforced and in register with fixing screws 1.4. Knives and creasers are cut and shaped accurately to suit cutting forme
2. Prepare knives, creasers and cutting forme rubbers	2.1. Knives and creasers are set accurately into place on cutting forme blank 2.2. Rubber is located on cutting forme to eject product and waste as required
3. Set stripping material	3.1. Stripping materials are attached securely and accurately to stripper backing material 3.2. Mounting strips are correctly fixed
4. Proof the cutting forme	4.1. Sample meets production order specifications 4.2. Cutting forme is adjusted or re-cut if required
5. Maintain cutting forme and stripper	5.1. Correct number is allocated to cutting formes/ strippers and recorded 5.2. Cutting forme machine is cleaned according to OHS and <i>enterprise procedures</i> 5.3. Problems are accurately described to supervisor/ maintenance department 5.4. Status of cutting formes/strippers is reported correctly and without delay to production

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by recording the cutting forme/stripper identification number and reporting problems to supervisors or the maintenance department
- planning and organising by cleaning the cutting forme machine according to OHS and enterprise procedures
- teamwork when setting cutting formes and strippers in a workplace context
- using technology by using cutting formes and strippers
- problem solving by noting cutting forme making machine maintenance problems

Required knowledge

- checks made to correctly position bridge holes
- reinforcing bridge holes
- checks that can be performed to ensure that the saw cuts accurately match the line drawings
- checks made when cutting and shaping the knives and creasers
- OHS concerns that are there when setting knives
- factors that determine the amount of rubber attached to the forme
- factors that determine the positioning of the rubber on the forme
- important items to consider when setting the knives and creasers into position on the forme blank
- checks made when attaching stripping materials to stripper backing materials
- completing the attachment of stripper materials accurately
- purpose of the mounting strips
- areas that must be proofed to ensure that the cutting forme meets the production order specifications
- importance of allocating numbers to each forme
- method of recording the forme allocation numbers that is the accepted formula
- OHS factors that must be considered when cleaning the machine
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- recommended cleaning agents
- method of recording and reporting machine maintenance problems
- indicators that show that the machine is in need of oiling/greasing
- conditions to be noted when noting/reporting the status of the cutting forme or

REQUIRED SKILLS AND KNOWLEDGE

stripper

- importance of monitoring the condition of the forme and stripper
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly setting the cutting formes and strippers according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO cutting formes (ONE large ONE small) to accommodate TWO differing typically used substrates using all of the relevant processes according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF311C Prepare for cutting forme and stripper making.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Enterprise procedures</i> may include:</p>	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<p><i>Complexity of process</i> may include:</p>	<ul style="list-style-type: none"> varied cutting formes according to manufacturer's differentiations.
<p><i>Quality processes and standards</i> may include:</p>	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF320C Produce complex converted or finished product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to cover complex die cutting, embossing, folding, collating or fastening.
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Application of the Unit

Application of the unit	This unit requires the individual to complete operations involving complex die cutting, embossing, folding, collating or fastening.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where <i>bold italicised text</i> is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Reel stand and rewind section is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. <i>Substrate</i> is added and removed to and from the process according to job specifications 1.4. Delivery is monitored and adjusted to ensure quality and efficient product delivery 1.5. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added and removed to and from the process according to job specifications
3. Maintain cutting system	3.1. Knife or die condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of cutting devices and knives or dies are monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.4. Packing of cutting devices or dies is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain complex process	4.1. Registration and squareness of folds are monitored and adjusted to ensure the quality of product meets the standard of the approved sample, if relevant

ELEMENT	PERFORMANCE CRITERIA
	4.2. <i>Collating</i> /inserting process is monitored and adjusted to ensure quality of product meets the standard of the approved sample, if relevant
5. Maintain operation of complex fastening (adhesive/mechanical/sewing) system (IF RELEVANT)	<p>5.1. Registration of <i>fastening</i> is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>5.2. Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>5.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p> <p>5.4. Thread tension and stitch quality are monitored and adjusted to ensure quality of product meets standard of the approved sample</p>
6. Maintain production process	<p>6.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>6.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>6.3. Manual and/or automatic control is used according to job specifications</p> <p>6.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>6.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>6.6. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>6.7. Faulty performance of <i>equipment</i> is identified and reported according to enterprise procedures</p> <p>6.8. Waste is sorted according to enterprise procedures</p>
7. Identify and rectify problems or faults	<p>7.1. Product and <i>substrate</i> are monitored and tested to ensure conformance to client requirements</p> <p>7.2. Problems in <i>converting/finishing</i> machine</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>operation are identified and reported according to enterprise procedures</p> <p>7.3. Adjustments or corrections are carried out according to specified procedures and manufacturer's specifications</p> <p>7.4. Converting/finishing machine operation is checked to ensure correct operation</p>
8. Conduct shutdown of production process	<p>8.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>8.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>8.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>8.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>8.5. Repair/adjustment is verified prior to resumption of operations</p>
9. Clean converting/finishing machine at end of run	<p>9.1. Cutting devices and knives or dies are cleaned or replaced ready for next run (IF RELEVANT)</p> <p>9.2. Cutting devices are sharpened according to OHS procedures (IF RELEVANT)</p> <p>9.3. Machine bed is cleaned ready for next run</p> <p>9.4. All units are disengaged and cleaned ready for next run</p> <p>9.5. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures (IF RELEVANT)</p> <p>9.6. Laminating machine is disengaged and cleaned ready for next run (IF RELEVANT)</p> <p>9.7. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run OR</p> <p>9.8. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>9.9. Production records or other documentation are</p>

ELEMENT	PERFORMANCE CRITERIA
	accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by accurately completing production records and other documentation
- planning and organising by shutting down and cleaning machines at the end of a run
- teamwork following the production process in association with fellow workers
- using technology by correctly following shutdown procedures
- problem solving by monitoring and adjusting the feeder to ensure efficient and continuous feeding to the machine

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- parts of the sheet or section pick-up system that are to be adjusted to ensure accurate and continuous sheet handling
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks made when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife/cutting edge
- checks made when cutting pressure is adjusted
- important points to monitor when maintaining the cutting process?
- check made of the following: cutting pressures, cutting registration, packing of cutting area, condition of cutting edges, the smooth running of the operation
- ways in which a clean and precise result can be guaranteed
- production difficulties that can be expected during production runs

REQUIRED SKILLS AND KNOWLEDGE

- OHS factors that must be considered when problem solving on the machine maintaining the cutting process
- checks made when packing cutting devices
- checks made when correcting dull cutting edges on equipment
- checks made when correcting the depth of embossing
- checks made when correcting out-of-square results
- procedure for correcting THREE common machine faults
- OHS factors that must be considered when using the folding machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine
- areas of the gluing unit that should be continuously monitored
- terms buckle folding, knife folding, side lay, pharmaceutical folding, deflector, glue line
- OHS factors that must be considered when adjusting/correcting the machine
- SIX causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- action that should be taken if the gate fold unit is out of timing
- action that should be taken if the viscosity of adhesive in the gluing unit is too low/high
- action that should be taken if the gluing unit is out of timing
- action that should be taken if right angle fold is out-of-square
- areas of the machine that should be adjusted if the sheet is creasing
- areas of the machine that should be adjusted if the sheet is caught in the fold plate
- areas of the machine that should be adjusted if the sheet is not entering the machine
- areas of the machine that should be adjusted if sheets are not entering delivery neatly
- remedies for the following problems: job is out-of-square, ink too wet for production, job does not coincide with the sample, the sheet is creasing, the sheet is caught in the fold plate, the sheet is not entering the machine, the sheet falls out of the machine after folding
- consideration that should be given to what areas of OHS when the machine is operating
- factors that govern the speed at which the machine will operate
- indicators that the machine was in need of lubrication
- circumstances that the machine would need to be adjusted
- OHS factors that should be considered before readjusting the machine
- areas of the machine that would cause sheets to crease during production
- reasons for sheets to misfeed during production
- creasing of sheets correction
- method of correction that is needed to prevent double sheet feeds
- adjustment that must be made to prevent "bruising" of NCR sheets

REQUIRED SKILLS AND KNOWLEDGE

- areas that are to be checked when sections are failing to open on the chain
- OHS factors that must be considered when maintaining or adjusting the operation of the machines
- OHS factors that must be considered when using hot melt adhesive
- consequence of too much or too little adhesive
- safety clothing that is available for use when operating adhesive binders
- matters that determine the speed of production
- sectors to observe to guarantee that the production process is trouble-free and continuous
- matters that determine that the machine need to be adjusted
- matters that determine that the machine need to be slowed down
- matters that determine when machine speed can be increased
- adjustment of position and quantity of adhesive on an adhesive binder/gluer
- adjustment of adhesive thickness and pressure on an adhesive binder/gluer
- achieving more spine milling on an adhesive binder how can
- adjustment of the wire length on a wire stitcher
- straightening of the wire in the wire feed on a wire stitcher how can
- increasing/decreasing the dwell time on a high frequency welder
- OHS factors that must be considered when cleaning the machine
- checks made when shutting down a given machine
- important reasons for FOUR shutdown operations
- what areas of the machines need regular cleaning
- materials that need to be cleaned from the machine
- recommended cleaning agents
- keeping the machine clear of surface rust (condensation)
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that need to be monitored during production
- quality aspects that need to be checked on finished product
- steps that should be taken to ensure that important features of the production control system are followed
- altering production need to meet client requirements
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly produce complex converted or finished product involving complex die cutting, embossing, folding, collating or fastening according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • competency must be demonstrated on any converting or finishing equipment (whether involving one process or a sequence of processes) • demonstrate all safety devices on the machine • On the chosen equipment TWO different complex jobs must be demonstrated preferably involving different types, sizes and weights of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet or large or small book or section handling systems.
<i>Collating units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Equipment</i> may include:	<ul style="list-style-type: none"> • either single process machines or multiple process machines.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.
<i>Converting/finishing processes</i> may include:	<ul style="list-style-type: none"> • flat-bed or rotary die or forme cutting, embossing • sequenced, multiple folding or gusseting • collating/inserting of sheets or book sections, or reels (may include tabs, crimping) of varied form, weight or shape • adhesive fastening (such as cold and hot melt gluing, taping) of substrates of varied form, weight or shape, eg hard case making, casing in, spine lining, multiple head and complex pattern gluing • mechanical fastening (such as wire stitching, loop stitching) of substrates of varied form, weight or shape • section sewing.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • at least one major process must be complex as defined in this unit or the appropriate set up unit.
<i>Shapes for die cutting/embossing</i>	<ul style="list-style-type: none"> • complex, multiple shapes.

RANGE STATEMENT	
may include:	
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies, cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>Folding units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as numbering, date stamping and basic converting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg printing or coating) it should be assessed as such.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF321C Set up and produce complex guillotined product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to complete complex guillotining (including knife changing) involving programmable guillotines and/or complex cutting sequences.
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Application of the Unit

Application of the unit	This unit requires the individual to complete complex guillotining (including knife changing) involving programmable guillotines and/or complex cutting sequences.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p> <p>1.4. Grip and lay edges of sheet are identified</p>
2. Install and replace cutting knives into machine	<p>2.1. Appropriate knives are selected and safely secured to machine</p> <p>2.2. Dull knives are removed and bolted securely to protective board</p> <p>2.3. Cutting sticks are replaced when necessary</p>
3. Set up machine for guillotining	<p>3.1. Guillotine is set up and adjusted according to job specifications</p> <p>3.2. Clamping pressures are set up and adjusted according to job specifications</p>
4. Conduct sample cut	<p>4.1. Material to be used for sample is organised correctly</p> <p>4.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>4.4. Results are interpreted to determine adjustment requirements</p> <p>4.5. Adjustment changes are carried out according to product and machine specifications</p>
5. Maintain guillotining process	<p>5.1. Knife and cutting stick condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>5.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample</p> <p>5.3. Registration of knives is monitored and adjusted to ensure quality of product meets the standard of the approved sample</p>
6. Maintain operation of production process	<p>6.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>6.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>6.3. Manual and/or automatic control is used according to job specifications</p> <p>6.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>6.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>6.6. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>6.7. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>6.8. Waste is sorted according to enterprise procedures</p>
7. Identify and rectify problems and faults	<p>7.1. Problems in guillotining machine operation are identified and reported according to enterprise procedures</p> <p>7.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>7.3. Guillotining machine operation is checked to ensure correct operation</p>
8. Conduct shutdown of production process	<p>8.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>8.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>8.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>8.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>8.5. Repair/adjustment is verified prior to resumption of operations</p>
9. Clean guillotining machine at end of run	<p>9.1. Knife and machine bed are cleaned ready for next run</p> <p>9.2. <i>Cutting</i> machine is disengaged and cleaned ready for next run</p> <p>9.3. Production records or other documentation are</p>

ELEMENT	PERFORMANCE CRITERIA
	accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by liaising with clients as required to maintain or adjust production, and reading and interpreting job specifications
- planning and organising by correctly shutting down and cleaning the machine at the end of a run
- teamwork when maintaining the production process in association with fellow workers
- using technology by setting up and adjusting clamping pressures according to job specifications
- problem solving by selecting appropriate knives and securely fixing them to the machine

Required knowledge

- information concerning cutting would that you expect to find in the job documentation or production control system
- interpretation of this information to ensure smooth workflow throughout the factory
- SIX trade terms that may be used in the documentation for complex cutting or guillotine knife change operations
- elements that must be considered when planning a cutting sequence
- OHS factors that must be considered when handling knife blades during the knife change operation
- recommended knife angles for general cutting
- use of a double bevel on a guillotine knife
- factors that indicate that a new blade is needed
- result of a dull blade is used continuously
- difference between sharp knife from a dull knife
- information that must be sent with dull knife when replaced
- necessary time to replace a cutting stick
- forces that are acting on a guillotine knife
- OHS factors that must be considered when setting up and operating the guillotine
- factors that should be considered when setting up a guillotine for a complex cutting job
- choosing the correct clamping pressure for a given job
- result of the clamp pressure not being appropriate for the stock
- clamp pressure adjustment

REQUIRED SKILLS AND KNOWLEDGE

- clamp pressure that is recommended for NCR paper
- clamp pressure that is recommended for 80gsm offset paper
- clamp pressure that is recommended for 2400um strawboard
- expectation if the knife angle is less than 19 degrees
- expectation if the knife angle is more than 24 degrees
- need for a knife with a double angle
- knife angles on a double bevelled knife
- largest and smallest size sheets that can be processed on this machine
- procedures that can be used to complete undersize requirements
- recognising a "work and turn" job
- recognising a "work and twist" job
- recognising a "work and tumble" job
- recognising a "work and back" job
- problems that can occur when activating the automatic knife
- types of job not suitable for automatic cutting
- important operation that is required to trim multi-section books or magazines with bulky spines
- OHS factors that must be considered when checking and adjusting the machine
- the machine adjustment parameters
- checks that should be made after readjustment
- settings that may need to be altered after checks have been made
- items of the cutting result that should be checked against the sample
- steps that are taken if the cutting result does not coincide with the sample
- areas of the machine that should be continuously monitored
- identifying a lay and gripper edge if not marked (FIVE methods)
- OHS factors that must be considered when maintaining the production process
- production factors that must be considered when maintaining the production process
- production difficulties that can possibly affect the smooth production flow
- reporting procedures that are to be followed if the machine should malfunction
- treatment / disposal of waste from the guillotine area
- ways to mark lay and gripper edges on sheets
- result of the lay and grip edges are not recognised
- need to build-up the clamp of a guillotine
- "packing-up" the clamp of a guillotine
- important operation that is required to trim multi-section books or magazines with bulky spines
- reasons why the guillotine knife will not operate when the machine is turned on
- reasons why a book block may be cut out-of-square
- reasons for the program not working after it has been entered into the machine
- parts of the guillotine that should be checked if, after a cut, the top sheets are

REQUIRED SKILLS AND KNOWLEDGE

- longer than the bottom sheets
- parts of the guillotine that should be checked if, after a cut, the top sheets are shorter than the bottom sheets?
- result of no replacing the cutting stick regularly
- part of the guillotine that should be checked if, after a cut, the top sheets are out-of-square?
- part of the guillotine that should be checked if, after a cut, the top sheets are creasing along the cut line?
- checks necessary when the clamp plate is removed
- need for machine lubrication
- information about correct types and methods of lubrication
- OHS factors that must be considered when shutting down and/or cleaning the machine
- special operations that are essential when shutting down the machine
- maintenance procedures that should be used to keep the machine in good condition and order
- methods that are employed to rid the machine of waste
- cleaning agents that are used on the guillotine
- quality aspects that should be considered in a completed cutting job
- steps that should be taken to ensure that important features of the production control system are followed
- altering production need to meet client requirements
- items that must be checked against the client's sample
- steps that should be taken if the test sample is incorrect
- areas of the finished product that should be inspected
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up and produce complex guillotined product according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up (including knife change) and produce THREE complex guillotined products (THREE different substrates eg paper, strawboard, plastic, book cloth, and both large and small sheets) using a semi-automated or automated electronic guillotine, and setting a complex cutting program according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> single knife, programmable guillotines, complex cutting sequence.
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> range of semi-automated, automated or computerised guillotines.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF326C Undertake pre make-ready for die cutting

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare cutting formes (two large and two small) to accommodate different complexities of cutting with multiple images with extremely tight registration and highly accurate cutting requirements.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare cutting formes (two large and two small) to accommodate different complexities of cutting with multiple images with extremely tight registration and highly accurate cutting requirements. It is generally used in the packaging industry.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Obtain job instructions and locate forme	1.1. Job sheets or instructions are interpreted correctly 1.2. Existing formes are located in storage area using filing system and new formes and associated tooling are collected from holding location
2. Check cutting forme	2.1. Cutting forme/tooling is checked against master sample for accuracy of cut and fold 2.2. Centre line is located and checked to ensure accuracy of positioning/registration on Bobst
3. Position and set up counters	3.1. Cutting plate is located and prepared for counters 3.2. Counters are accurately positioned and set up on cutting plate to ensure registration with cutting forme
4. Conduct sample cut	4.1. Material to be used for sample cut is obtained 4.2. Cutting forme and cutting plate are accurately positioned on machine 4.3. Machine is operated to produce sample according to enterprise procedures
5. Check sample	5.1. Sample is accurately cut and registration of tooling is precise 5.2. Forme or tooling is adjusted if necessary according to job specifications 5.3. Sample is confirmed as correct by supervisor if required
6. Set up stripping forme and blank separator	6.1. Pins are positioned on stripping forme to ensure accurate removal of waste board 6.2. Blank separator is set up according to job specifications
7. Undertake filing procedure	7.1. Correct identification number is allocated to cutting formes/tooling and strippers and recorded 7.2. Information is correctly entered into filing system according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by interpreting job sheets correctly during set up
- planning and organising when setting up machinery and materials
- teamwork when discussing a sample with the supervisor
- using technology by setting up machinery
- problem solving by adjusting forme or tooling for precise cutting

Required knowledge

- checks made to correctly position bridge holes
- bridge holes reinforcement
- checks that can be performed to ensure that the saw cuts accurately match the line drawings
- checks to be made when cutting and shaping the knives and creasers
- OHS concerns that are there when setting knives
- factors that determine the amount of rubber attached to the forme
- factors that determine the positioning of the rubber on the forme
- important items to consider when setting the knives and creasers into position on the forme blank
- checked to be made when attaching stripping materials to stripper backing materials
- attachment of stripper materials accurately
- purpose of the mounting strips
- areas that must be proofed to ensure that the cutting forme meets the production order specifications
- allocation of numbers to each forme
- method of recording the forme allocation numbers that is the accepted formula

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • prepare cutting formes (two large and two small) to accommodate different complexities of cutting with multiple images with extremely tight registration and highly accurate cutting requirements • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare FOUR cutting formes (two large and two small) to accommodate TWO different complexities of cutting. At least ONE must contain multiple images with extremely tight registration and highly accurate cutting requirements • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Context may include:

- this competency is performed between the making of the cutting forme and it going to the cutting machine for normal make ready.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF327C Set up machine for complex rotary die cutting or embossing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex rotary die cutting or embossing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for complex rotary die cutting or embossing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p>
2. Mount rotary cutting or embossing devices	<p>2.1. Cutting devices or dies are correctly mounted to die cylinders</p> <p>2.2. Cutting devices or dies are registered and proofed on die cylinder</p> <p>2.3. Appropriate cutting devices or dies are selected and secured to machine according to job specifications</p>
3. Set up reel system (OR Element 4)	<p>3.1. Unwind and rewind reels are set up and adjusted according to job specifications</p> <p>3.2. Webbing procedures are carried out according to job specifications</p> <p>3.3. Web control system is set up and adjusted according to job specifications</p> <p>3.4. Reels are spliced/joined according to job specifications</p> <p>3.5. Folder and sheeter are set up and adjusted according to job specifications</p>
4. Set up sheet system (OR Element 3)	<p>4.1. Feeder and delivery systems are set up and adjusted according to job specifications</p> <p>4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications</p> <p>4.3. Transfer systems are set up and adjusted according to job specifications</p> <p>4.4. Substrate is removed from process according to job specifications</p>
5. Set up machine for basic rotary cutting	<p>5.1. Rotary cutting devices are set up and adjusted according to job specifications</p> <p>5.2. Cutting pressures are set up and adjusted according to job specifications</p> <p>5.3. Counter knives/anvils are set in correct position Set up in-line units</p>
6. Set up in-line units	<p>6.1. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications</p> <p>6.2. Assistance is given in set up of major in-line</p>

ELEMENT	PERFORMANCE CRITERIA
	printing/convertng/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
7. Conduct sample run	7.1. Material to be used for sample is organised correctly 7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Results are interpreted to determine adjustment requirements 7.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by reading and interpreting job specifications
- planning and organising when installing a rotary cutting or embossing device into the machine
- teamwork when giving assistance with the setting up of in-line units
- using technology when setting up the web control system and adjusting according to job specifications
- problem solving by readjusting settings based on results of the sample run

Required knowledge

- information concerning rotary die cutting or embossing that you would expect to find in the job documentation or production control system
- information be interpreted to ensure smooth workflow throughout the factory
- factors that must be considered when deciding on a cutting system
- checked when cutting devices are mounted on a cylinder
- methods each of registering and proofing the cutting devices
- checked when the cutting devices are attached to the machine
- criteria that determines the selection of particular cutting devices
- OHS concerns when setting up reel transportation systems
- adjustments to the unwind reel to suit various jobs
- important areas to be considered during webbing procedures
- important areas of the reel delivery system to be adjusted according to job specifications
- steps to be taken to ensure that the delivery system operates effectively
- adjustment to the sheeter during production
- adjustment to the folder during production
- adjustment to the rewind wheel during production
- OHS factors that must be considered when setting up and/or operating sheet transport and delivery systems
- important areas or sections of the feeder unit set up
- adjustments that can be made to the machine to facilitate accurate sheet pick-up and transportation
- areas of the delivery system that should be observed to maintain neat delivery of finished work
- areas of the delivery system that should be observed to prevent damage to the finished product

REQUIRED SKILLS AND KNOWLEDGE

- necessary to be checked when substrate is removed from the machine
- ways in which the finished product can be secured for dispatch
- OHS factors that must be considered when setting up rotary cutting devices
- setting up, adjusting and operating rotary cutting machines
- machine pressure
- machine cutting depths
- adjusting lays for registration and what needs to be checked when it is done
- problems if the counter knives/anvils are incorrectly set
- largest/smallest size sheet that can be processed on this machine
- checked to ensure the suitability of in-line process
- details of the completed sample that should be examined to ensure conformance with the client's requirements
- common faults that can occur with the rotary cutting process
- factors that indicate a need for the replacement of knives/blades/cutting edges
- cutting edges and counter knives (anvils) should be stored to guard against damage and deterioration
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machine for complex rotary die cutting or embossing according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on EITHER rotary die cutting OR embossing. For either process set up TWO complex jobs (including in-line processes) with different substrates, sizes and patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF320C Produce complex converted or finished product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> rotary die and forme cutting, embossing.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, corrugated board or metal.
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> simple, multiple shapes.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF328C Produce complex rotary die cut or embossed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex rotary die cut or embossed product.
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Application of the Unit

Application of the unit	This unit requires the individual to maintain the operation of machinery and the production process, rectify problems and shut down the equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel system (OR Element 2)	1.1. Reel stand and rewind section are monitored and adjusted to ensure efficient continuous operation to maintain correct tension and to ensure no marks, blemishes or damage to finished product 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job specifications 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain operation of sheet system (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to the process according to job specifications
3. Maintain operation of complex rotary die cutting or embossing process	3.1. Knife condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of knife(s) is monitored and adjusted to ensure qu Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of sample approved 3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of sample approved
4. Maintain production process	4.1. In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>and planned daily schedule</p> <p>4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>4.4. Manual and/or automatic control is used according to job specifications</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify rotary cutting machine problems and faults	<p>5.1. Problems in <i>rotary cutting</i> machine are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Cutting rotary machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.5. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean rotary cutting units at end of run	<p>7.1. Knife and machine bed are cleaned ready for next run</p> <p>7.2. Cutting devices are sharpened correctly according to OHS requirements and enterprise procedures</p> <p>7.3. Cutting machine is disengaged and cleaned ready for</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>next run</p> <p>7.4. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.5. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.6. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills by monitoring and verifying performance using process control systems
- planning and organising when following the correct shutdown sequence
- teamwork when conducting shutdown with fellow workers
- using technology when adjusting machinery to improve performance
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- parts of the sheet pick-up system that are to be adjusted to ensure accurate and continuous sheet handling
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- items of importance to consider when maintaining rotary cutting operations
- checks made on: cutting pressures, cutting registration, packing of cutting area, condition of cutting edges, the smooth running of the operation
- indicators that demand the replacement of cutting edges
- checks to be made when cutting accuracy is adjusted
- ways in which a clean and precise result can be guaranteed
- production difficulties that can be expected during production runs
- OHS factors that must be considered when problem solving on the rotary machine cutting process

REQUIRED SKILLS AND KNOWLEDGE

- checks to be made when packing cutting devices
- procedure for correcting any machine faults
- OHS factors that must be considered when conducting machine shutdown procedures
- checks to be made when waste is removed from the machine and surrounding area for disposal or recycling
- checks to be made when shutting down the machine
- checks to be made when the cutting devices or knives are cleaned, stored or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- cleaning agents that are used in cleaning the machine
- build-ups that need to be cleaned from the machine
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed rotary cutting job
- steps that should be taken to ensure that important features of the production control system are followed
- production areas that may have to be adjusted to meet client requirements
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • produce complex products that meet job specifications and production timeframes using rotary cutting or embossing equipment • demonstrate an ability to find and use information relevant to the task from a variety of information sources • competency must be demonstrated on EITHER rotary die cutting OR embossing. For either process produce TWO complex jobs (including in-line processes) with different substrates, sizes and patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF327C Set up machine for complex rotary die cutting or embossing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> • rotary die and forme cutting, and embossing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Rotary cutting units</i> may include:	<ul style="list-style-type: none"> • a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> • complex, multiple shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF341C Set up machine for complex sequenced or multiple folding

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex folding.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for complex folding.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to job specifications 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Folder and sheeter are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder is set up and adjusted according to job specifications 3.2. Double/misfeed detectors are set up according to job specifications 3.3. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.4. Transfer systems are set up and adjusted according to job specifications 3.5. Material delivery is set up and adjusted according to job specifications
4. Set up machine for complex sequenced or multiple folding	4.1. Buckle/knife folding units are set up and adjusted according to job specifications 4.2. Folding rollers/belts/rails are set up and adjusted according to job specifications
5. Set up in-line units	5.1. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications 5.2. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
6. Conduct sample run	6.1. Material to be used for sample is organised correctly 6.2. Machine is set up and operated to produce a specified sample according to OHS requirements,

ELEMENT	PERFORMANCE CRITERIA
	<p>manufacturer's specifications and enterprise procedures</p> <p>6.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>6.4. Results are interpreted to determine adjustment requirements</p> <p>6.5. Adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when reading and interpreting job specifications
- planning and organising when setting up the machine for complex folding and ensuring the availability of all job related components
- teamwork when assisting with the set up of in-line units
- using technology when setting up the sheet delivery system on a sheet-fed machine
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- information concerning folding requirements that would you expect to find in the job documentation or production control system
- information interpretation to ensure smooth workflow throughout the factory
- factors that must be considered when planning a folding sample
- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- OHS factors that must be considered when setting folder transportation and delivery systems
- areas of the sheet-fed transportation system that should be monitored to ensure trouble-free operation
- parts of the sheet pick-up system that should be adjusted to ensure accurate and continuous sheet handling
- areas of the delivery system that should be observed to maintain neat delivery of finished work
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- ways in which the folded sheets can be secured for dispatch
- OHS factors that must be considered when setting up and/or adjusting the folding unit
- largest/smallest size sheet that can be processed on this machine
- adapting the machine to facilitate smaller/larger stock

REQUIRED SKILLS AND KNOWLEDGE

- factors that determines the accuracy of sheets entering folding rollers
- causes scratching/scuffing of substrate during transportation
- factors that determines the speed of the machine
- adjustments to be made if the sheet is not reaching the fold unit
- adjustment to be made if the sheet is turned on the transportation unit
- problems that can be expected if the machine is running too fast
- problems that can be expected if the machine rollers are set too loose
- problems that can be expected if there is too much roller pressure
- problems that can be expected if the delivery system is not set correctly
- factors that determines the correct roller pressure for a given job
- roller pressures checks for correctness
- adjustment to be made if the sheet is out-of-square
- reasons for the sheet being out-of-square
- adjustment to be made to ensure that the sheets are not smudging/"scuffing"
- adjustments to be made if the sheet will not leave the folding unit
- OHS factors that must be considered when adjusting machine units
- steps that are taken to ensure correct alignment of in-line processes/units
- checks to be made when operating the electronic gate fold unit
- use of a gate fold unit
- use of a gluing unit on a job
- adhesive that is used in the gluing unit
- adjustments made to the length of the glue line
- causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if job is out-of-square
- communication action that should be instigated if ink is too wet for production
- communication action that should be instigated if job does not coincide with sample
- areas of the machine that should be adjusted if the sheet is creasing
- areas of the machine that should be adjusted if the sheet is caught in the fold plate
- areas of the machine that should be adjusted if the sheet is not entering the machine
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for complex folding according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up THREE multiple sequenced folding jobs (eg letter folds, concertina folds) OR gusseting (envelope adjuster) jobs, using different sizes and weights of substrates (eg 45-110 gsm) and including use of a gluing unit and/or gate fold unit, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example this unit may be assessed at the same time as:</p> <ul style="list-style-type: none"> • ICPCF320C Produce complex converted or finished product.

EVIDENCE GUIDE

Depending on the configuration of equipment and types of jobs, the following units may also be assessed at the same time:

- ICPCF231C Set up machine for basic flat-bed cutting
- ICPCF235C Set up machine for basic rotary cutting
- ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening
- ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Folding units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Folding process</i> may include:	<ul style="list-style-type: none"> sequenced, multiple folding or gusseting.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF342C Produce complex sequenced or multiple folded product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex folded product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. <i>Substrate</i> is added to the process according to job specifications
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to the process according to job specifications
3. Maintain production process	3.1. Registration and squareness of fold are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Basic <i>in-line</i> printing/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.4. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.5. Manual and/or automatic control is used according to job specifications 3.6. Performance is monitored and verified using the process control system according to enterprise procedures 3.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.8. Process adjustments to eliminate problems are reported according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>3.9. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>3.10. Waste is sorted according to enterprise procedures</p>
4. Identify and rectify problems and faults	<p>4.1. Problems in folding (sequenced/multiple) machine operation are identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>4.3. Folding (sequenced/multiple) machine operation is checked to ensure correct operation</p> <p>4.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>4.5. Repair/adjustment is verified prior to resumption of operations</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
6. Clean folding (single/ continuous) machine at end of run	<p>6.1. Folding units are disengaged and cleaned ready for next run</p> <p>6.2. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>6.3. Reel feed and transportation systems are disengaged and cleaned ready for next run</p> <p>6.4. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when monitoring and verifying performance using process control systems
- planning and organising when following the correct shutdown sequence
- teamwork when conducting the shutdown with fellow workers
- using technology when setting up the sheet delivery system on a sheet-fed machine
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when using the folding machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine?
- areas of the in-line process that should be monitored to assure the quality of the product
- OHS factors that must be considered when adjusting/correcting the machine
- causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if job is out-of-square
- communication action that should be instigated if the ink is too wet for production
- communication action that should be instigated if the job does not coincide with the sample
- part(s) of the machine that should be adjusted if the sheet is creasing
- OHS factors that must be considered when cleaning the machine
- important tasks that must be performed to correctly shut down the machine
- preparation of finished work for dispatch
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• keeping the machine clear of surface rust (condensation)• quality aspects that should be considered in a completed folded job• production areas that may have to be adjusted to meet client requirements• machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • produce a complex single or continuous folded product that meets the job specifications, production timeframes and quality standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO jobs (if possible using different sizes and weights of substrate) EITHER with a single fold to run continuously OR a single quire fold on a sheet gather/stitch/fold/trim machine OR an automatic web-fed machine to achieve a single fold, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Folding process</i> may include:	<ul style="list-style-type: none"> single, parallel or continuous folding.
<i>Folding units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF343C Set up machine for complex collating or inserting (sheet/section/reel)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex collating, gathering or inserting of sheets or sections.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for complex collating, gathering or inserting of sheets or sections and is appropriate for binding and finishing operations, mail houses and newspapers.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p>
2. Set up reel system (OR Element 3)	<p>2.1. Unwind and rewind reels are set up and adjusted according to job specifications</p> <p>2.2. Webbing procedures are carried out according to job specifications</p> <p>2.3. Web control system is set up and adjusted according to job specifications</p> <p>2.4. Reels are spliced/joined according to job specifications</p>
3. Set up sheet/section system (OR Element 2)	<p>3.1. Feeder and delivery systems are set up and adjusted according to job specifications</p> <p>3.2. Sheet/section/reel pick-up and transportation system is set up and adjusted according to job specifications Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>3.3. Transfer systems are set up and adjusted according to job specifications</p> <p>3.4. Substrate is removed from the process according to job specifications</p> <p>3.5. Sheet/section/reel transfer and control system is set up and adjusted according to job specifications</p>
4. Set up machine and in-line units	<p>4.1. Collating/inserting system is set up and adjusted according to job specifications</p> <p>4.2. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications</p> <p>4.3. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)</p>
5. Conduct sample run	<p>5.1. Material to be used for sample is organised correctly</p> <p>5.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>5.4. Results are interpreted to determine adjustment requirements</p> <p>5.5. Adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when organising a laboratory test, and reading and interpreting job specifications
- planning and organising when setting up the sheet/section delivery system according to job specifications
- teamwork when assisting with in-line set up units
- using technology when using the double/misfeed sheet calliper system
- problem solving by interpreting results of tests and determining adjustment requirements

Required knowledge

- important information concerning collating that will be included in the job documentation or production control system
- interpretation of information to ensure smooth workflow throughout the factory
- elements that must be considered when planning a collated sample
- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- important factors to consider when setting up the feeder
- setting up of the double/misfeed sheet calliper system
- considerations to ensure smooth transportation of the sheets or sections to and through the machine
- name of the different types of sheet/section delivery systems
- areas of OHS when the machine is operating
- largest/smallest sheet/section size possible to be run on the machine
- areas of the machine that should be adjusted to allow for 42 gsm stock
- largest/smallest size sheet that can be processed on this machine
- ways that the machine can be adapted to facilitate smaller/larger stock
- factors that govern the speed at which the machine will operate
- indicators that the machine was in need of lubrication
- OHS factors that must be considered when adjusting machine units
- steps that should be taken to ensure correct alignment of in-line processes/units

REQUIRED SKILLS AND KNOWLEDGE

- adjustments that should be made to keep units correctly positioned
- OHS factors that are to be considered before readjusting the machine
- acceptable collating results
- cause of creasing of sheets in the machine delivery
- adjustments to the machine to alleviate "bruising" of NCR paper
- items that must be checked against the client's sample
- circumstances that would the machine need to be adjusted
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for complex collating or inserting according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • Set up machines for complex collating (at LEAST four or five products) including in-line processes on FOUR occasions, if possible TWO sheet jobs each using different sizes and weights of substrate and TWO section jobs with and without lip/lap, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example this unit may be assessed at the same time as:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine

EVIDENCE GUIDE

- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU207C Prepare machine for operation (basic)
- ICPCF320C Produce complex converted or finished product.

Depending on the configuration of equipment and types of jobs, the following units may also be assessed at the same time:

- ICPCF223C Set up machine for cutting (trimming)
- ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening
- ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Collating process</i> may include:	<ul style="list-style-type: none"> collating/inserting of sheets or book sections, or reels (may include tabs, crimping) of varied form, weight or shape.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Collating units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF344C Produce complex collated or inserted (sheet/section/reel) product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a complex collated or inserted sheet, section or reel product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain reel transportation system (OR Element 2)	1.1. Clean collating or inserting (sheet/section/reel) machine at end of run 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to the process according to job specifications
2. Maintain sheet transportation system (OR Element 1)	2.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling end efficient operation 2.4. Substrate is added to the process according to job specifications
3. Maintain production process	3.1. Collating or inserting process is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.2. In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.4. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.5. Manual and/or automatic control is used according to job specifications 3.6. Performance is monitored and verified using the process control system according to enterprise procedures 3.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.8. Waste is sorted according to enterprise procedures
4. Identify and rectify	4.1. Problems in collating or inserting

ELEMENT	PERFORMANCE CRITERIA
problems and faults	<p>(sheet/section/reel) machine are identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>4.3. Collating or inserting (sheet/section/reel) machine operation is checked to ensure correct operation</p> <p>4.4. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.5. Faulty performance of equipment is identified and reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Clean collating or inserting (sheet/section/reel) machine at end of run	<p>6.1. Collating or inserting machine is cleaned ready for next run</p> <p>6.2. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>6.3. Reel feed transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>6.4. Sheet feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>6.5. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when monitoring and verifying performance using process control systems
- planning and organising when following the correct shutdown sequence
- teamwork when conducting shutdown with fellow workers
- using technology when adjusting machinery to improve performance
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- areas of OHS that consideration should be given when the machine is operating
- factors that govern the speed at which the machine will operate
- indicators that the machine was in need of lubrication
- circumstances that the machine would need to be adjusted
- OHS factors that should be considered before readjusting the machine
- areas of the machine that would cause sheets to crease during production
- causes of the sheets misfeeding during production
- correction of the creasing of sheets
- method of correction that is needed to prevent double sheet feeds
- adjustment that must be made to prevent "bruising" of NCR sheets
- areas that are to be checked when sections are failing to open on the chain
- checks to be made when correctly shutting down the machine
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- recommended cleaning agents
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- steps that should be taken to ensure that important features of the production control system are followed
- an acceptable collating result
- cause of creasing of sheets in the machine delivery
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a complex collated product that meets job specifications, production timeframes and quality standards demonstrate an ability to find and use information relevant to the task from a variety of information sources operate machines for complex collating (at LEAST FOUR or FIVE products) including in-line processes on FOUR occasions (if possible TWO sheet jobs using different sizes and weight of substrate and TWO section jobs with and without lip/lap), according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores on and off machine ICPSU202C Prepare, load and unload product on and

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	<p>off machine</p> <ul style="list-style-type: none">• ICPSU208C Operate and monitor machines (basic)• ICPCF342C Produce complex sequenced or multiple folded product• ICPCF361B Set up machine for complex adhesive, mechanical or sewn fastening.
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Collating process</i> may include:	<ul style="list-style-type: none"> collating/inserting of sheets or book sections, or reels (may include tabs, crimping) of varied form, weight or shape.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Collating units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex adhesive, mechanical or sewn fastening. Some equipment may also involve cutting, trimming, folding and/or gathering (collating) which may be assessed at the same time.
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Application of the Unit

Application of the unit	This unit requires the individual to set up for complex adhesive, mechanical or sewn fastening.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up sheet/section system	2.1. Feeder and delivery systems are set up and adjusted according to job specifications 2.2. Sheet/section pick-up and transportation system is set up and adjusted according to job specifications 2.3. Transfer systems are set up and adjusted according to job specifications 2.4. Substrate is removed from the process according to job specifications 2.5. Sheet/section transfer and control system is set up and adjusted according to job specifications
3. Set up machine and in-line units	3.1. Fastening system is set up and adjusted according to job specifications 3.2. Minor in-line printing/converting/binding units are set up for basic processes and adjusted according to machine requirements and job specifications 3.3. Assistance is given in set up of major in-line printing/converting/binding units (NOTE: if entire set up is completed, refer to appropriate competency standards)
4. Conduct sample run	4.1. Material to be used for sample is organised correctly 4.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 4.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 4.4. Results are interpreted to determine adjustment requirements 4.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when organising a laboratory test and reading and interpreting job specifications
- planning and organising when conducting a sample run
- teamwork when giving assistance with setting up in-line units
- using technology when setting up and adjusting the fastening system according to job specifications
- problem solving when interpreting sample results to determine adjustment requirements

Required knowledge

- information concerning binding requirements that would you expect to find in the job documentation or production control system
- interpretation of information to ensure smooth workflow throughout the factory
- elements that must be considered when planning a collated sample
- OHS concerns that are there when setting up transportation systems
- special delivery problems that are associated with adhesive machines
- overcoming these problems
- different section feeding systems
- monitoring the delivery systems present on the various machines
- ways in which the completed work can be secured for dispatch
- largest/smallest size sheet that can be processed on this machine
- ways that the machine can be adapted to facilitate smaller/larger stock
- OHS areas that must be addressed when setting up fastening equipment on the machine
- a jobs correct binding technique
- OHS safeguards that are necessary with hot melt adhesives
- methods of adhesive metering present on the machine
- care that should be taken to ensure a neat and clean adhesive binding job
- expectations if sewing is not in the right position
- parts of the wire stitcher that would need to be adjusted to process books of different thicknesses
- position of the wire stitches on the book
- difference between a staple and a wire stitch
- appropriate wire calliper for a particular job

REQUIRED SKILLS AND KNOWLEDGE

- largest/smallest size sheet that can be processed on each machine
- machines be adaption to facilitate smaller/larger stock
- OHS areas that must be addressed when setting up these areas of the machine
- in-line units that are available for these binding processes
- OHS factors that should be considered before readjusting the machine
- circumstances that the machine would need to be adjusted
- quality aspects that should be considered in the completed binding job
- steps that should be taken to ensure that important features of the production control system are addressed
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for complex adhesive, mechanical or section fastening according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated in any ONE of adhesive, thermal, mechanical or section sewing. For each process set up (including replacing adhesive, thread, wire) TWO complex jobs using different sizes and weights of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product. <p>Depending on the configuration of equipment and types</p>

EVIDENCE GUIDE	
	of jobs, virtually any other converting and finishing set up unit can be assessed at the same time.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • large or small sheet/section handling systems.
<i>Fastening processes</i> may include:	<ul style="list-style-type: none"> • adhesive fastening such as cold and hot melt gluing, taping of substrates of varied form, weight or shape, eg hard case making, casing in, spine lining, multiple head and complex pattern gluing • mechanical fastening such as wire stitching, loop stitching of substrates of varied form, weight or shape • section sewing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • complex refers to use of automatic adhesive and thermal machines, multiple head mechanical machines, section sewers.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF362C Produce complex adhesive, mechanical or sewn fastened product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex adhesive, mechanical or sewn fastened product. Some equipment may also involve cutting, trimming, folding and/or gathering (collating) which may be assessed at the same time.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults, and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of sheet/section transportation system	1.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding to machine 1.2. Sheet/section pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 1.3. Sheet/section transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 1.4. Substrate is added to the process according to job specifications
2. Maintain operation of sheet/section delivery system	2.1. Delivery system is monitored and adjusted to ensure quality and efficient product delivery 2.2. Wire straightness, length, cut-off and clinching pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.4. Thread tension and stitch quality are monitored and adjusted to ensure quality of product meets standard of the approved sample
3. Maintain production process	3.1. In-line printing/convertng/binding/finishing processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.4. Manual and/or automatic control is used according to job specifications 3.5. Performance is monitored and verified using the process control system according to enterprise procedures 3.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.7. Waste is sorted according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
4. Identify and rectify problems and faults	<p>4.1. Problems in sewing <i>fastening</i> machine are identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>4.3. Sewing fastening machine operation is checked to ensure correct operation</p> <p>4.4. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.5. Faulty performance of equipment is identified and reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.5. Repair/adjustment is verified prior to resumption of operations</p>
6. Clean adhesive/mechanical/sewing fastening machine at end of run	<p>6.1. Sewing unit is disengaged and cleaned ready for next run</p> <p>6.2. Mechanical <i>fastening unit</i> is disengaged and cleaned ready for next run</p> <p>6.3. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>6.4. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>6.5. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>6.6. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when monitoring and verifying performance using process control systems
- planning and organising when conducting a sample run
- teamwork when following the correct shutdown sequence
- using technology when adjusting machinery to improve performance
- problem solving when identifying problems and faults and developing solutions
- problem solving when interpreting sample results to determine adjustment requirements

Required knowledge

- OHS factors that must be considered when operating sheet-fed transportation and delivery systems
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- parts of the sheet pick-up system that are to be adjusted to ensure accurate and continuous sheet feeding
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when maintaining or adjusting the operation of the machine
- OHS factors that must be considered when using hot melt adhesive
- safety clothing that is available for use when operating adhesive binders
- speed of production
- sectors to observe to guarantee that the production process is trouble-free and continuous
- areas of the in-line process that should be monitored to assure the quality of the product
- circumstances that require the machine to be adjusted
- circumstances that require the machine to be slowed down
- circumstances for machine speed be increased
- adjustment of the adhesive application on an adhesive binder
- achieving more spine milling on an adhesive binder
- adjustment of the wire length on a wire stitcher how

REQUIRED SKILLS AND KNOWLEDGE

- straightening the wire in the wire feed on a wire stitcher
- increasing / decreasing the dwell time on a high frequency welder
- increasing / decreasing the current on a high frequency welder
- OHS factors that must be considered when cleaning hot melt from the machine
- checks to be made when shutting down a given machine
- FOUR important reasons for a thorough shutdown of operations
- areas of the machine that needs regular cleaning
- materials that need to be cleaned from the machine
- recommended cleaning agents
- keeping the machine clear of surface rust (condensation)
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed adhesive bound job
- quality aspects that should be considered in a completed high frequency welded job
- quality aspects that should be considered in a completed wire stitched job
- steps that should be taken to ensure that important features of the production control system are followed
- alterations needed to production to meet client requirements
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a complex fastened product that meets job specifications, production timeframes and quality standards demonstrate an ability to find and use information relevant to the task from a variety of information sources competency must be demonstrated in any ONE of adhesive, mechanical or section sewing. For each process produce TWO complex jobs using different sizes and weights of substrate according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • large or small sheet/section handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Fastening processes</i> may include:	<ul style="list-style-type: none"> • adhesive fastening such as cold and hot melt gluing, taping of substrates of varied form, weight or shape, eg hard case making, casing in, spine lining • mechanical fastening such as wire stitching, loop stitching of substrates of varied form, weight or shape • section sewing.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> • a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • complex refers to use of automatic adhesive and thermal machines, multiple head mechanical machines, section sewers.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF369C Set up and produce hand-made box

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make boxes by hand.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and produce a hand-made box. It applies to the binding and finishing sector not the carton sector of the industry. Carton sample making is covered in ICPPP281C Design basic carton and ICPPP481C Design complex carton.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine dimensions and style of box	1.1. Options for style and cost are discussed with client 1.2. Dimensions of article to be contained are determined through measurement and/or job specifications 1.3. Final job specifications are determined and confirmed with the client
2. Select materials	2.1. Board weight, covering and lining <i>materials</i> are selected according to job specifications 2.2. Grain direction is determined if relevant
3. Cut board, cover material and lining to size	3.1. Board, cover material and lining are cut to correct size 3.2. Board is scored to appropriate depth if necessary 3.3. Waste is removed if applicable 3.4. Lids are fitted if necessary to allow for the thickness of covering material
4. Fold and score corners (OR Element 5)	4.1. Straight folds are made with corners at correct angles 4.2. Corners are secured with reinforcing material if necessary
5. Glue and butt join (OR Element 4)	5.1. Walls are set at correct angles to base 5.2. Flush joins are made with adequate adhesion
6. Attach covering material and lining	6.1. Corners are cut correctly according to job specifications 6.2. Covering material and lining are fixed with adequate and smooth adhesion 6.3. Material is rubbed smoothly into corners of box
7. Press box if necessary	7.1. Block for pressing is made up as required 7.2. Even pressure is applied to box sections
8. Decorate or furnish box if required	8.1. Appropriate decorating techniques are used where relevant 8.2. Appropriate furnishings (clasps, hinges) are attached if required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to using tools and operating equipment
- communication skills when discussing options and styles with the client
- planning and organising when determining the final job specifications and selecting materials
- teamwork when maintaining the production process in association with others
- using technology when cutting the board, cover material and lining to size
- problem solving when selecting board weight, covering and lining to meet job specifications

Required knowledge

- OHS concerns that are there when making boxes
- necessary board calliper for a box
- maximum calliper for a folded box
- inconspicuous corner reinforcements
- appropriate covering material and style
- style of box that is appropriate
- recommended allowances in a book box
- in slip cases, techniques that can be used to reduce scuffing of a book cover
- reducing corner bulk when using heavyweight board
- techniques that can be used when cutting the turn-ins for a rounded spine
- need to cover the edge of a board before attaching the main covering
- consequence of adhesives that are too thick or too thin
- open time of an adhesive affect on the covering process
- criteria that are used to evaluate a finished box
- ensuring a clean finished job
- manuals, safety and other documentation that are relevant to this task and where they are kept information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly set up and produce a hand-made box according to job specifications and within the production timeframe demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO boxes in different styles and materials, at least ONE of which must have a lid, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Materials may include:	<ul style="list-style-type: none"> range of materials including board, paper, bookcloth, buckram.
Types of boxes may include:	<ul style="list-style-type: none"> range of boxes including loose lid, hinged lid, drop front, clamshell, book box, cruciform box, slip case, solander box.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF371C Decorate paper

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use a range of paper and edge decorating techniques.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and use a range of paper and edge decorating techniques including marbling, gilding, gauffering, staining, sprinkling, spraying, burnishing and paste paper.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Surface to be decorated is prepared 1.2. Edges are trimmed, scraped and sanded as appropriate to the technique being used 1.3. Appropriate size, mordant or glair is prepared and applied
2. Carry out marbling	2.1. Bath is prepared with gum or water as appropriate to technique being used 2.2. Equipment is selected and set up according to job specifications 2.3. Colours are mixed to correct consistency for required spread 2.4. Books are tied up if edges are to be marbled 2.5. Bath is prepared according to job specifications 2.6. Substrate is correctly dipped and removed then rinsed and dried
3. Gild edges with leaf	3.1. Book is loaded into laying press 3.2. Red bole or black lead (graphite) is correctly applied and treated 3.3. Gold and glair are correctly applied and burnished
4. Gild edges mechanically	4.1. Substrate is loaded into press 4.2. Substrate is prepared according to technical requirements 4.3. Gilding machine is set up with appropriate pressure, heat and dwell time 4.4. Gilding foil is applied to substrate using the correct technique 4.5. Appropriate additives are used if foil fails to take
5. Carry out gauffering	5.1. Design to be transferred is drawn up using the correct technique 5.2. Tools are selected and prepared 5.3. Book is locked into laying press 5.4. Impressions are made ensuring even result
6. Carry out staining or sprinkling or spraying	6.1. Books or papers are positioned and clamped or weighted 6.2. Covering Colour is prepared according to job specifications 6.3. Colour is applied with sponge, spray gun, roller or sprinkling brush as appropriate ensuring even

ELEMENT	PERFORMANCE CRITERIA
	application and adequate time to dry
7. Apply graphite	7.1. Book is locked into laying press 7.2. Graphite powder is applied using the correct technique 7.3. Edges are burnished to required effect
8. Carry out burnishing	8.1. Book is locked into laying press 8.2. Bloodstone or agate tools are selected as appropriate 8.3. Beeswax is supplied in fine film or worked through waxed paper 8.4. Edges of book are burnished using appropriate pressure
9. Make paste paper	9.1. Paste is prepared to correct consistency and colour 9.2. Required patterns are created using brushes, combs, dies or pulling off

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to using tools and operating equipment
- communication skills when confirming job specifications
- planning and organising when preparing the appropriate materials for the chosen technique
- teamwork when maintaining the production process in association with others
- using technology when applying colour with the relevant tools
- problem solving by using additives if foils do not take

Required knowledge

- OHS concerns that are there in the various methods of paper decoration
- size/mordant/glair that is used for a particular process and its appropriate strength
- methods of application and describe where each is used
- examples of surface preparation timing before treatment
- importance that substrate should be free of dust
- different gums that can be used in the bath
- correct consistency of the bath
- techniques used to produce different patterns or effects
- likely causes of blank spots on the substrate
- control of the spread of colour
- temperature affect on the marbling process
- reasons for gold not sticking
- repair of a break in a gilt edge
- methods of picking up gold leaf for edge gilding
- technique that is used for gilding in the round
- difference of antique gilding from a solid gilt edge
- use of red bole or black lead with the gold
- technique that is used to obtain an even impression
- consequence of inappropriate pressure
- ways in which you ensure that you have an even finish
- minimisation of colour absorption in absorbent stocks
- methods that can be used to prevent colour appearing on an adjacent edge
- ways in which correct consistency of graphite/paste mixture is determined
- ways in which an even coating is ensured
- most common fault with burnished edges
- steps can be taken to ensure a smooth result
- ways in which the correct consistency for paste is determined

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• ways in which colour fastness ensured• techniques used to produce different patterns• manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly decorate paper using a range of techniques according to job specifications and within the production timeframe demonstrate an ability to find and use information relevant to the task from a variety of information sources competency must be demonstrated in TWO processes of which ONE must be marbling or gilding OR any THREE processes. For each process produce TWO jobs (if possible using different sizes, styles and substrates), according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of decoration</i> may include:	<ul style="list-style-type: none"> includes marbling, edge gilding, gauffering, staining and sprinkling, graphite, burnishing, paste paper.
<i>Location of decoration</i> may include:	<ul style="list-style-type: none"> includes edges, fore edges (flat and round) and paper surfaces.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF381C Set up machine for complex laminating

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for a range of complex laminating processes including laminating reel to reel, sheet to reel and reel to sheet.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for a range of complex laminating processes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage
2. Set up reel transportation system	2.1. Unwind reel is set up and adjusted according to job specifications 2.2. Webbing procedures are carried out 2.3. Web control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Rewind reel is set up and adjusted according to job specifications 2.6. Sheeter is set up and adjusted according to job specifications
3. Set up machine for complex laminating	3.1. Application system cylinder is set up and adjusted according to job specifications 3.2. Adhesive application system is set up and adjusted according to job specifications 3.3. Binding pressures are set up and adjusted according to job specifications 3.4. Drying system is set up and adjusted according to job specifications
4. Set up in-line unit(s)	4.1. Minor in-line printing/converting/binding unit(s) are set up for basic process(es) and adjusted according to machine requirements and job specifications 4.2. Assistance is given in set up of major in-line printing/converting/binding unit(s). (NOTE: if entire set up is completed, refer to appropriate competency standards)
5. Conduct sample run	5.1. Raw material to be used for sample is organised correctly 5.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 5.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures Impressions are made ensuring even result

ELEMENT	PERFORMANCE CRITERIA
	5.4. Results are interpreted to determine adjustment requirements 5.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when organising laboratory testing of a sample
- planning and organising when conducting a sample run
- teamwork when assisting with the set up of major in-line units
- using technology when adjusting the sheeter according to the job specifications
- problem solving when interpreting test results and determining adjustment requirements

Required knowledge

- information concerning laminating requirements that you would expect to find in the job documentation or production control system
- interpretation of this information to ensure smooth workflow throughout the factory
- elements that must be considered when planning a laminating sample
- OHS areas that must be addressed when setting up these areas of the machine
- webbing procedures commonly used in the transportation area
- areas to consider when setting up the web control system
- problem areas likely to be encountered setting up the sheeter
- methods of splicing a web on the laminating process
- OHS areas that must be addressed when setting up the laminating machine
- checks to be made when setting up (and adjusting) the application system cylinder
- checks to be made when setting up (and adjusting) the adhesive application system
- factors that determine the setting of the binding pressures
- important matters that are to be examined when setting the drying system
- largest/smallest size sheet that can be processed on this machine
- adapting the machine to facilitate smaller/larger stock
- OHS areas that must be addressed when setting up these areas of the machine
- in-line units that are available for the laminating process
- OHS factors that should be considered before readjusting the machine
- circumstances that the machine would need to be adjusted
- quality aspects that should be considered in a completed laminating job
- steps that should be taken to ensure that important features of the production control system are addressed
- items to be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and

REQUIRED SKILLS AND KNOWLEDGE

where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for a range of complex laminating processes within production timeframes. At least one machine used must be fully automated • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on any TWO of moisture, chemical and extrusion laminating. For each process set up a laminating machine (2 or more ply) to complete TWO jobs on different substrates and of different sizes (large/small formats including one in-line process) while demonstrating splicing techniques in minimum time according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished

EVIDENCE GUIDE

product.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Adhesives</i> may include:	<ul style="list-style-type: none"> range of one or two component adhesives used in complex laminating.
<i>In-line process</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Laminating process</i> may include;	<ul style="list-style-type: none"> moisture, chemical and thermal cured, and extrusion process.
<i>Laminating units</i> may include:	<ul style="list-style-type: none"> range of manual, semi-automated, fully automated and computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of absorbent and non-absorbent, transparent and non-transparent substrates within the major categories of paper, plastics and metals.
<i>Substrate delivery</i> may include:	<ul style="list-style-type: none"> wide and narrow reel handling systems.

Unit Sector(s)

Unit sector

Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF382C Produce complex laminated product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex laminated product.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor and adjust machinery, maintain transportation of the substrate, identify and rectify faults and correctly clean and shut down equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel transportation system on web-fed machine	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. <i>Substrate</i> is added to the process according to job specifications
2. Maintain operation of reel delivery system on web-fed machine	2.1. Reel rewind section is monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product 2.2. Substrate is removed from the process according to job specifications 2.3. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
3. Maintain complex laminating process	3.1. Registration of <i>laminating</i> is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.2. Pressures are monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.3. Adhesion is monitored and adjusted to ensure quality of product meets the standard of the approved sample
4. Maintain production processes	4.1. <i>In-line</i> printing/coating/converting/binding/finishing process(es) are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 4.2. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 4.4. Manual and/or automatic control is used according to job specifications 4.5. Performance is monitored and verified using the process control system according to enterprise procedures 4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 4.7. Process adjustments to eliminate problems are

ELEMENT	PERFORMANCE CRITERIA
	<p>reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify machine operating problem	<p>5.1. Problems in laminating machine are identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Laminating machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.5. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean laminating machine at end of run	<p>7.1. Laminating machine is disengaged and cleaned ready for next run</p> <p>7.2. <i>Adhesive</i> system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>7.3. In-line printing/coating/converting/binding/finishing units are cleaned ready for next run</p> <p>7.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.5. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills when monitoring and verifying performance using process control systems
- planning and organising when following the correct shutdown sequence
- teamwork when conducting the shutdown with fellow workers
- using technology when adjusting machinery to improve performance and ensuring correct and continuous feeding and delivery of substrate
- problem solving when identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when operating web machine transport and delivery systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when maintaining the laminating process
- ways in which registration of laminating s assured
- ways in which adjustment achieved
- ways in which the pressure can be adjusted during production
- areas of production that must be monitored to ensure trouble-free operations
- OHS factors that must be considered when maintaining the complex in-line processes
- areas of the in-line processes that should be monitored to ensure a quality product
- laminating problems that may occur during the operation of the machine
- adjustments or correction procedures that may need to be made to ensure accurate operation of the process
- OHS factors that must be considered when shutting down and cleaning the machine
- checks to be made when correctly shutting down the machine
- areas of the machine that need regular cleaning

REQUIRED SKILLS AND KNOWLEDGE

- materials that need to be cleaned from the machine
- keeping the machine clear of surface rust (condensation)
- recommended cleaning agents
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed laminated job
- steps that should be taken to ensure that important features of the production control system are followed
- alterations to production to meet client requirements
- items that must be checked against the client's sample
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • produce complex laminated product that meets job specifications, production timeframes and quality standards. At least one machine used must be fully automated • demonstrate an ability to find and use information relevant to the task from a variety of information sources • competency must be demonstrated on any TWO of moisture, chemical and extrusion laminating. For each process operate a laminating machine (2 or more ply) to complete TWO jobs on different substrates and of different sizes (large/small formats including one in-line process) while demonstrating splicing techniques in minimum time according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate delivery</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel handling systems.
<i>Laminating process</i> may include:	<ul style="list-style-type: none"> • moisture, chemical and thermal cured, and extrusion process • thermal fastening such as high frequency and head welding.
<i>In-line process</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Adhesives</i> may include:	<ul style="list-style-type: none"> • range of one or two component adhesives used in complex laminating.
<i>Laminating units</i> may include:	<ul style="list-style-type: none"> • range of manual, semi-automated, fully automated and computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of absorbent, non-absorbent, transparent and non-transparent substrates within the major categories of paper, plastics and metals.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF391C Use electronic monitoring systems (converting and finishing)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use electronic monitoring systems for glue lines used in the container and carton sector of the industry and for gatherers and folders used in the binding and finishing sector.
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Application of the Unit

Application of the unit	This unit requires the individual to use electronic monitoring systems for glue lines, gatherers and folders.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up electronic monitoring system	1.1. Parameters are set according to job type and specifications and enterprise procedures 1.2. Monitor is positioned according to job type and specifications 1.3. Ejection system is positioned according to job type and specifications, where relevant 1.4. Marking system is positioned according to job type and specifications, where relevant 1.5. "Learn" function is started to identify sheets and signatures, where relevant
2. Run job and monitor production	2.1. Glue line registration and glue application is monitored to ensure product conforms to job specifications 2.2. <i>Machine</i> is adjusted if the number of rejects exceeds specified limits 2.3. Reasons for stoppages are identified and corrected 2.4. Initial set up parameters are monitored and reviewed to ensure smooth production of <i>quality</i> product
3. Review production data	3.1. Production rejects are monitored and causes are identified 3.2. Overall data is reviewed at the end of the product run 3.3. Information on production documentation is recorded as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to setting up and operating electronic monitoring systems
- communication skills when recording information on production documents
- planning and organising when positioning the monitor according to job type
- teamwork when maintaining the production process in association with other staff
- using technology when setting up the electronic monitoring system
- problem solving when identifying reasons for rejects during production

Required knowledge

- OHS factors that need to be considered when setting up and operating electronic monitoring systems
- importance of the distance between cartons on the machine t for production and for the operation of the electronic monitoring system
- checking the ejector (or marker) for correct operation
- different carton types and substrates and the affect on the amount and position of glue required
- glue is requirements for different carton types
- result of too much or too little glue
- result of an incorrectly positioned glue line
- process for fixing too much and too little glue
- process for adjusting the position of the glue line with respect to the length of the glue flap
- other machine faults that are registered on the EMS
- other parts of the folding/gluing system that will cause monitoring system to reject product
- ways of ensuring that the EMS is ejecting/marking only faulty cartons
- parts of the machine that need to be adjusted if reject cartons are not correctly identified and culled
- faults that are likely to trigger the signature or sheet monitoring system
- cause of common faults and how can they be avoided and corrected
- quality principles behind the use of electronic monitoring
- work procedures that can be implemented to minimise faults
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- steps that should be taken to ensure that important features of the production control system are followed
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• other sources of information that are available |
|---|

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly use electronic monitoring systems for glue lines, gatherers and folders according to job specifications and within the production timeframe • set up electronic monitoring systems for TWO different jobs, preferably of different sizes and substrates, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate an ability to retrieve information from the electronic system.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPCF220C Produce basic converted or finished product • ICPCF241C Set up machine for basic single or continuous folding • ICPCF243C Set up machine for basic collating or inserting (sheet/section) • ICPCF261C Set up machine for basic adhesive, mechanical or thermal fastening • ICPCF320C Produce complex converted or finished

EVIDENCE GUIDE

	<p>product</p> <ul style="list-style-type: none">• ICPCF341C Set up machine for complex sequenced or multiple folding• ICPCF343C Set up machine for complex collating or inserting (sheet/section/reel)• ICPCF361C Set up machine for complex adhesive, mechanical or sewn fastening.
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machines</i> may include:	<ul style="list-style-type: none"> folder/gluers, gatherers and other relevant converting and finishing machines.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Monitoring systems</i> may include:	<ul style="list-style-type: none"> electronic glue line monitoring systems (EMS) and monitoring systems for gatherers and folders that identify incorrect sheets or signatures. Systems may eject or mark faulty product (mainly in carton sector) or shut down production (mainly in binding and finishing).
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working under limited supervision.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF392C Produce product on window gluer

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a range of different size jobs on the window gluer.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a range of different size jobs on the window gluer.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of transportation system	1.1. Feeder is monitored and adjusted to ensure continuous and efficient feeding of cartons to the machine 1.2. Carton pick-up and transport system is monitored and adjusted to ensure accurate continuous carton handling and efficient operation 1.3. Transfer systems are monitored and adjusted to ensure correct and continuous carton handling and efficient operation
2. Maintain operation of processes	2.1. Delivery is monitored and adjusted to ensure quality and efficient carton delivery 2.2. Registration of gluing is monitored and adjusted to ensure quality of product meets the standard of the approved sample 2.3. Adhesion is monitored and adjusted to ensure quality meets the standard of the approved sample
3. Maintain basic rotary cutting process	3.1. Cutting edges and knife condition are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample
4. Maintain production process	4.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 4.3. Performance is monitored and verified using the process control system according to enterprise procedures 4.4. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 4.5. Process adjustments to eliminate problems are reported according to enterprise procedures 4.6. Faulty performance of equipment is identified and reported according to enterprise procedures 4.7. Waste is sorted according to procedures
5. Identify and rectify	5.1. Problems in window gluing machine operation are

ELEMENT	PERFORMANCE CRITERIA
problems	<p>identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to enterprise procedures</p> <p>5.3. Problems in film cutting and application operation are identified and rectified according to enterprise procedures</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Glue system is washed up ready for next run and liquid waste is disposed of according to regulatory requirements and enterprise procedures</p> <p>6.4. Cutting devices are checked and sharpened if needed</p> <p>6.5. Waste cartons are removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.7. Repair/adjustment is verified prior to resumption of operations</p> <p>6.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to setting up and operating electronic monitoring systems
- communication skills when ensuring the product quality meets the required quality standard
- planning and organising when following the correct sequence to shut down the machine
- teamwork when maintaining the production process in association with other staff
- using technology when monitoring and adjusting equipment for production purposes and adjusting pressures and registration
- problem solving by identifying problems and faults and developing solutions

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the feeder should be monitored to ensure trouble-free operation
- OHS factors that must be considered when using the window facer machine
- areas to continuously observe to ensure the smooth trouble-free operation of the machine
- areas of the gluing and film cutting process that should be monitored to assure the quality of the product
- adjustment of the glue application
- OHS factors that must be considered when adjusting/correcting the machine
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if job does not coincide with sample
- part(s) of the machine that should be adjusted if window film is cut/slit incorrectly
- factors that cause poor glue adhesion on cartons
- OHS factors that must be considered as a job is completed
- important tasks that must be performed to correctly shut down the machine
- ways in which the finished work is prepared for the next process
- areas of the machine that need regular cleaning
- materials that need to be cleaned from the machine
- quality aspects that should be considered in a completed job
- alterations to production to meet client requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a range of different size jobs on the window gluer according to job specifications and within the production timeframe produce a range of different size jobs on the window gluer including 1, 2 and 3 cycle operate, and dual feed evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Fastening processes</i> may include:	<ul style="list-style-type: none"> spot and line gluing.
<i>Fastening units</i> may include:	<ul style="list-style-type: none"> a range of machines with manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPCF393C Set up machine for envelope manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine to cut and add patches during the manufacture of envelopes.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine to cut and add patches during the manufacture of envelopes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Calibrate and adjust settings	<p>1.1. All details required for the job are checked and confirmed against <i>job specifications</i></p> <p>1.2. The <i>correct materials</i> are checked and available for the job</p> <p>1.3. Adhesives are selected that are appropriate for the substrate, the application process and the machine</p> <p>1.4. Work area is made safe and prepared for production according to safety requirements</p> <p>1.5. Window cutting and patch unit <i>settings</i> are set according to job specifications</p> <p>1.6. Measurement settings are checked thoroughly against job specifications before production is commenced</p> <p>1.7. Window position and size are set to meet requirements to ensure the machine runs efficiently and safely</p> <p>1.8. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards</p> <p>1.9. The process is monitored to maintain quality and identify opportunities for improvement</p>
2. Confirm quality	<p>2.1. A sample is produced and checked for conformance with quality standards, and adjustments made if required</p> <p>2.2. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved</p> <p>2.3. Any machine faults are reported to appropriate responsible person</p> <p>2.4. The locations of all emergency shutdown buttons and triggers are known</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when making the work area safe and preparing for production according to safety requirements
- communication skills when reporting any machine faults to the appropriate person
- planning and organising when checking the measurement settings against the job specifications before production is commenced
- teamwork when maintaining the production process in association with other staff
- using technology when operating an envelope manufacturing machine
- problem solving when adjusting machine settings in order to maintain quality standards

Required knowledge

- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures
- principles of envelope manufacture and setting window cutting and patching units
- common faults associated with window cutting and patching

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up the window cutting and patching units and produce a clean window cut with correct gum position, even level of patch size and position according to job specifications and within the production timeframe • demonstrate all safety devices on the machine • for valid and reliable assessment of this unit, evidence should be gathered over a period of time to indicate consistent performance in setting up the manufacturing process • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • envelope manufacturing equipment with window cutting and patching units.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets • batch processing orders • job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues • papers • coated • uncoated • pre-printed.
<i>Settings</i> may include:	<ul style="list-style-type: none"> • paper tension • paper thickness • coated • non-coated materials • glue drying times • wastage allowance • substrate.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF395C Set up and operate folder gluer machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and operate a folder gluer machine.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and operate a folder gluer machine with minimum downtime or wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and adjust units	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The <i>correct materials</i> are checked and available for the job 1.3. Adhesives appropriate for the substrate, the application process and the machine are selected 1.4. Work area is made safe and ready for production according to safety requirements 1.5. Folding guides and pressing plates are set to the required dimensions for the job 1.6. The feeder, folding part, gluer, stacker, belts, vacuums and glue applicators are clean, clear and ready for use 1.7. Settings are checked against job specifications before production is commenced
2. Monitor throughput	2.1. Machine is run at the speed required to produce a quality product 2.2. Machine is <i>jogged</i> to ensure the folds and glue are in the correct position 2.3. Guide positions are monitored to ensure adhesive is applied evenly and in the correct position 2.4. Paper moisture is monitored and correct moisture levels are maintained 2.5. Blank spacing is controlled and product spacing and flow are maintained for efficient operation 2.6. Folds are correctly placed and the product stacks correctly 2.7. Glues dry at correct rates for the substrate
3. Confirm quality of output	3.1. A sample from the machine is selected and checked to ensure it conforms to the required quality standards 3.2. Adjustments are made when the standards are not met 3.3. Each process is monitored and minor adjustments are made during production, if required 3.4. Samples are continuously monitored for defects and defects are removed 3.5. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved

ELEMENT	PERFORMANCE CRITERIA
	<p>3.6. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards</p> <p>3.7. The locations of all emergency shutdown buttons and triggers are known</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when making the work area safe and preparing for production according to safety requirements
- communication skills when checking and confirming job specifications
- basic literacy to read work instructions
- planning and organising when monitoring wastage and correctly disposing of it according to enterprise quality standards
- teamwork when maintaining the production process in association with other staff
- using technology when operating a folder gluer machine
- problem solving when monitoring and correcting paper moisture levels and continuously monitoring samples for defects and removing them as required

Required knowledge

- common faults associated with folder gluer machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up and operate a folder gluer machine according to job specifications and within the production timeframe • the individual is able to set up and operate a folder gluer machine with minimum downtime or wastage • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of theses. Off the job assessment must be undertaken in a closely simulated workplace environment • access to a folder gluer machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues, papers, coated and uncoated, pre-printed, printed or die-cut board, single and double wall corrugated board.
<i>Jogged</i> may include:	<ul style="list-style-type: none"> • inched, moved slowly through the process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF396C Set up in-line scoring, folding and gluing machine for envelope manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up in-line scoring, folding and gluing machines used in the manufacture of envelopes.
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Application of the Unit

Application of the unit	This unit requires the individual to set up in-line scoring, folding and gluing machines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and adjust units	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The <i>correct materials</i> are checked and available for the job 1.3. Adhesives appropriate for the substrate, the application process and the machine are selected 1.4. Work area is made safe and ready for production according to safety requirements 1.5. Blades are sharp and fitted as necessary, with units calibrated according to job specifications 1.6. Settings are checked against job specifications before production is commenced 1.7. Adhesives are positioned correctly and applied evenly
2. Confirm quality of output	2.1. A sample from the machine is selected and checked to ensure it conforms to the required quality standards 2.2. Adjustments are made when the standards are not met 2.3. Each in-line process is monitored and minor adjustments made during production as required 2.4. Samples are continuously monitored for defects and removed where relevant 2.5. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.6. Wastage is monitored, kept to a minimum and correctly disposed of according to enterprise quality standards 2.7. The locations of all emergency shutdown buttons and triggers are known

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when making the work area safe and preparing for production according to safety requirements
- communication skills when checking and confirming job specifications
- basic literacy to read work instructions
- planning and organising when monitoring wastage and correctly disposing of it according to enterprise quality standards
- teamwork when maintaining the production process in association with other staff
- using technology when operating in-line scoring, folding and gluing machines
- problem solving when monitoring each in-line process and making adjustments as required during production

Required knowledge

- common faults associated with folder gluer machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up machinery and produce scoring, folding and gumming that meets job specifications for envelope dimensions, envelope squareness, flap dimensions, throat size, gum position, gum level and gum evenness according to job specifications and within the production timeframe • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of assessment methods to indicate consistent performance in in-line scoring, folding and gluing envelopes • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to in-line scoring, folding, and gluing machines used in the manufacture of envelopes.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues, papers, coated and uncoated, pre-printed.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF398C Set up in-line bottom making machine for sack or bag manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up in-line bottom making machines for the manufacture of sacks or bags.
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Application of the Unit

Application of the unit	This unit requires the individual to set up in-line bottom making machines for the manufacture of sacks or bags with minimum downtime.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPCF298C Run and monitor sack and bag machines	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and adjust units	1.1. <i>Job specifications</i> are obtained and read and tools and transfer segments are available for set up 1.2. Draw rollers and nip rollers and transfer segments are positioned correctly and pressures calibrated with timing set 1.3. Gears are changed and correctly set up 1.4. Knife assembly for guillotining and serration measurements are set and accurate timing assigned 1.5. Pre-creaser blades are positioned in relation to one another and angular timing fixed 1.6. Centre grippers are correct in size, pressures and positioning 1.7. Vacuum holes are correctly positioned and opening cylinder is set up and timed 1.8. Bottom forming guides and bottom paste unit are set up 1.9. Bottom closing and patch units are calibrated 1.10. Delivery chute and bag counter are prepared and ready
2. Set up in-line units	2.1. Correct perforation unit or perforation impression roller is set up 2.2. Pick-up rollers are installed and pressure and time are fixed 2.3. Tucking position, timing and depth are correctly set 2.4. Glue patch applicator or glue impression roller is set up according to job specifications 2.5. Press roller is positioned and pressured and timing is programmed 2.6. Doctor blades and hot melt unit are set up 2.7. Timing between all units is checked for conformance with job specifications 2.8. Gears are changed according to job specifications 2.9. The settings and tensions of the raw material unwind and brake assembly are correct according to job specifications
3. Check availability of materials	3.1. Cut tubes are available and stacked ready 3.2. Adhesives are appropriate for the <i>substrate</i> , the application process and the machine 3.3. Correct procedures for the control of <i>materials</i> are

ELEMENT	PERFORMANCE CRITERIA
	followed
4. Check set up	4.1. Work area is safe and ready for production according to safety requirements 4.2. All details required for the job are checked again and confirmed against job specifications 4.3. Settings are checked against specifications before production is commenced 4.4. Machine is <i>stepped</i> to ensure the scores and folds are in the correct position and paper tension is corrected/adjusted

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when making the work area safe and preparing for production according to safety requirements
- communication skills when checking and confirming all details required for the job against the job specifications
- planning and organising when correctly positioning draw rollers, nip rollers and transfer segments, and calibrating pressures with a timing set
- teamwork when maintaining the production process in association with other staff
- using technology when using an in-line bottom making machine for the manufacture of sacks or bags
- problem solving when stepping the machine to ensure the scores and folds are in the correct position and the paper tension is correct

Required knowledge

- common faults associated with folder gluer machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Set up in-line bottom making machines for the manufacture of sacks or bags with minimum downtime • Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • Access to scoring, folding, and gluing machinery used in the manufacture of sacks and bags
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Stepped</i> may include:	<ul style="list-style-type: none"> inched, jogged, moved slowly through the process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF399C Set up in-line tube making machine for sack or bag manufacture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up in-line tube making machines for the manufacture of sacks or bags.
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Application of the Unit

Application of the unit	This unit requires the individual to set up in-line tube making machines for the manufacture of sacks or bags with minimum downtime.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPCF298C Run and monitor sack and bag machines	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and adjust units	1.1. <i>Job specifications</i> are obtained and read and tools are available for set up 1.2. Draw rollers are positioned correctly and pressures calibrated 1.3. Gears are changed and correctly set up 1.4. Knife assembly for guillotining and serration measurements are set and accurate timing assigned 1.5. Nip roller position, timing and pressures are set 1.6. Pre-creaser blades are positioned in relation to one another and angular timing fixed 1.7. Centre grippers are correct in size, pressures and positioning 1.8. Vacuum holes are correctly positioned and timed
2. Prepare materials for manufacturing process	2.1. <i>Substrate</i> reels are positioned in correct unwind direction and in the correct order and web position, tension and web aligner are set up 2.2. Reels are loaded according to OHS requirements, manufacturer's specifications and enterprise procedures 2.3. Adhesives are appropriate for the substrate, the application process and the machine 2.4. Correct procedures for the control of <i>materials</i> are followed
3. Check set up	3.1. Work area is safe and ready for production according to safety requirements 3.2. All details required for the job are checked again and confirmed against job specifications 3.3. Settings are checked against specifications before production is commenced 3.4. Machine is <i>stepped</i> to ensure the scores and folds are in the correct position and paper tension is corrected/adjusted

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when checking and confirming all details required for the job against the job specifications
- planning and organising when checking settings against job specifications before production is commenced
- teamwork when maintaining the production process in association with other staff
- applying mathematical ideas and techniques when ensuring the centre grippers are correct in size and positioning
- using technology when using an in-line tube making machine for the manufacture of sacks or bags
- problem solving when stepping the machine to ensure the scores and folds are in the correct position and the paper tension correct

Required knowledge

- common faults associated with folder gluer machines, what causes them and how to correct them
- enterprise documentation procedures
- enterprise quality standards
- enterprise faults procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up in-line tube making machines for the manufacture of sacks or bags with minimum downtime • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to in-line scoring, folding, and gluing machinery used in the manufacture of sacks and bags.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Stepped</i> may include:	<ul style="list-style-type: none"> inched, jogged, moved slowly through the process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF406C Set up and load in-line smart card machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and load an in-line smart card machine
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Application of the Unit

Application of the unit	This unit requires the individual to set up a smart card machine to produce cards. The individual will set and adjust the machine and load it in preparation for production.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set and adjust sections of the machine	1.1. All details required for the job are checked and confirmed according to <i>job specifications</i> 1.2. The <i>correct materials</i> are checked and available for the job 1.3. All light sensors and proximity sensors are operating 1.4. Mills are set to the right cavity depth for the chips 1.5. Tape indexer and die are cleaned and the chip registration is correct 1.6. The implanting module is set up and registered and adhesives are available and dispenser is clean and ready 1.7. Machine and in-line components are initialised
2. Confirm computer settings	2.1. Encoder settings are correct and conform to job specifications 2.2. Tester settings are correct and conform to job specifications 2.3. Setting on the computer that controls entire machine is correctly set
3. Set up printer unit	3.1. Print head is set up and adjusted according to job specifications 3.2. Ink and solvent levels are checked and refilled if necessary 3.3. Settings are selected according to job specifications 3.4. Drying is checked as sufficient to key ink to the substrate 3.5. Printer is set up according to OHS guidelines
4. Load machine	4.1. Substrate is prepared according to job specifications 4.2. Substrate is positioned correctly to the machine 4.3. Faulty material is visually identified and removed according to OHS requirements and enterprise procedures 4.4. Cards are loaded according to OHS requirements and manufacturer's specifications and enterprise procedures 4.5. Settings are checked according to job specifications before production is commenced 4.6. Work area is safe and ready for production according to safety requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when recording details of production wastage
- planning and organising when coding and checking chips before operating the printer unit
- teamwork when maintaining the production process in association with other staff
- applying mathematical ideas and techniques when entering job specifications and machine settings through computer consoles
- using technology when setting up a smart card machine
- problem solving by visually identifying faulty material, removing it and identifying details of any cards needing to be remade and entering them into the computer console

Required knowledge

- production quality requirements
- waste disposal procedures
- smart card technology
- correct material handling procedures
- principles of printing and ink usage

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up and adjust an in-line smart card machine and load it in preparation for production • demonstrate all safety devices on the machine • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a smart card printing and encoding machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues, papers, coated and uncoated, pre-printed.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF407C Operate a smart card machine and pack product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to operate a smart card machine and pack product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a smart card machine and produce cards. The individual will monitor production for problems and to ensure quality. The operator will correctly pack cards at the end of the process and clear the machine of materials and wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor production process	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The supply of <i>materials</i> throughout the run is maintained 1.3. Machine is run at optimum speed for maintaining quality outputs 1.4. Samples from the machine are selected and checked to ensure they conform to job specifications 1.5. Machines are adjusted to maintain quality of outputs
2. Maintain quality	2.1. Correct procedures for the removal of waste are followed according to enterprise procedures 2.2. Samples are continuously monitored for defects and defects are removed 2.3. The efficiency, quality and output rate of the production run are monitored for problems and any deficiencies resolved 2.4. Milled cavities are checked to ensure the right cavity depth for the chips 2.5. Die cuts are correct and meet quality standards 2.6. The correct amount of glue is applied by the dispensing station 2.7. The chips are correctly inserted into the cavity by the implanting module 2.8. Print quality meets the standards in the job specifications or sample
3. Code and check chips	3.1. Encoder settings are correct and conform to job specifications 3.2. Tester settings are correct and conform to job specifications 3.3. The details of any cards needing to be remade are entered into computer console
4. Monitor printer unit	4.1. Ink and solvent levels are monitored and filled when required and stock levels are recorded according to enterprise procedures 4.2. Quality of inkjet is monitored to ensure it conforms to job specifications 4.3. Chemicals are handled according to OHS requirements 4.4. Drying is checked as sufficient to key ink to the

ELEMENT	PERFORMANCE CRITERIA
	substrate
5. Identify problems	5.1. Faults that affect the quality of the cards are identified and rectified 5.2. Problems that reduce the rate of output are identified and fixed 5.3. Faults that affect the efficient operation of equipment are identified and resolved
6. Unload and pack cards	6.1. Cards are unloaded according to OHS requirements, manufacturer's specifications and enterprise procedures 6.2. Reconciliation and final quality check are documented 6.3. Cards are prepared (stacked, wrapped and labelled) for next process according to manufacturer's specifications and enterprise procedures 6.4. Wastage is recorded and disposed of according to enterprise procedures
7. Shut down machine	7.1. Dispensing needle is moved to the safety position and solvent is checked to ensure coverage of the needle 7.2. Inkjet is cleaned and shutdown according to manufacturer's specifications 7.3. The encoding computer is shut down in the correct manner to ensure no loss of data 7.4. The milling vacuum is emptied and cleaned 7.5. The machine and work area are cleaned according to enterprise procedures 7.6. The air supply is turned off 7.7. Waste chemicals are handled and disposed of according to OHS requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when recording details of production wastage
- planning and organising when coding and checking chips before operating the printer unit
- teamwork when maintaining the production process in association with other staff
- applying mathematical ideas and techniques when monitoring the rate of machine output
- using technology when operating a smart card machine
- problem solving by monitoring the efficiency, quality and output rate of the production run and resolving any problems as they arise

Required knowledge

- operation of the card printing unit
- operation of the card encoding unit
- production quality requirements
- waste disposal procedures
- smart card technology
- correct material handling procedures
- principles of printing and ink usage

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> operate a smart card machine and produce cards according to job specifications and within the production timeframe demonstrate all safety devices on the machine operate a smart card machine and produce cards over two different jobs evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment access to a smart card printing and encoding machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Correct materials</i> may include:	<ul style="list-style-type: none"> glues, papers, coated and uncoated, pre-printed.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specs.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF410C Set up machine for complex carton folding and gluing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex carton folding and gluing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for complex carton folding and gluing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Read and interpret job requirements from job documentation or production control system 1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage
2. Set up carton blank transportation system	2.1. Feeder is set up and adjusted according to job specifications 2.2. Carton blank pick-up and transportation system is set up and adjusted according to job specifications 2.3. Transfer systems are set up and adjusted according to job specifications
3. Set up machine for complex carton folding/gluing	3.1. Folding units are set up and adjusted according to job specifications 3.2. Folding rollers/belts/rails are set up and adjusted according to job specifications 3.3. Gluing system is set up and adjusted according to job specifications using <i>glue</i> wheel and/or multiple glue heads
4. Set up carton delivery system	4.1. Delivery is set up and adjusted according to job specifications 4.2. Substrate is removed from process according to job specifications 4.3. Carton transfer and control system is set up and adjusted according to job specifications
5. Conduct sample run	5.1. Material to be used for sample is organised correctly 5.2. <i>Machine</i> is set up and operated according to OHS requirements, manufacturer's specifications and enterprise procedures to produce a specified sample 5.3. Sample is visually inspected and/or tested for accuracy of folds, fibre tear, opening force, fluff and glue placement according to enterprise procedures
6. Readjust settings	6.1. Results are interpreted to determine adjustment requirements 6.2. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when reading and interpreting job requirements from the job documentation or production control system
- planning and organising when setting up the carton blank transportation system before the carton delivery system
- teamwork when maintaining the production process in association with other staff
- applying mathematical ideas and techniques when interpreting job requirements from job documentation or the production control system
- using technology when using carton folding and gluing machines
- problem solving by interpreting results to determine adjustment requirements

Required knowledge

- information concerning folding requirements that can be expected to be found in the job documentation or production control system
- interpretation of information to ensure smooth workflow throughout the factory
- factors that must be considered when planning a folding sample
- OHS factors that must be considered when setting folder transportation and delivery systems
- areas of the carton blank transportation system that should be monitored to ensure trouble-free operation
- parts of the carton blank pick-up system that should be adjusted to ensure accurate and continuous sheet handling
- areas of the delivery system that should be observed to maintain neat delivery of finished work
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when setting and/or adjusting the folding unit
- largest/smallest size carton blank that can be processed on this machine
- ways that the machine can be adapted to facilitate smaller/larger stock
- accuracy of a carton blank entering folding rollers
- causes of scratching/scuffing of substrate during transportation
- speed of the machine
- problems that can be expected if the machine is running too fast
- problems that can be expected if the machine rollers are set too loose
- problems that can be expected if there is too much roller pressure

REQUIRED SKILLS AND KNOWLEDGE

- problems that can be expected if the delivery system is not set correctly
- correct roller pressure for a given job
- roller pressures checks to be made for correctness
- adjusted to be made if the carton blank is out-of-square
- reasons for the sheet being out-of-square
- adjustment to ensure that the carton blanks are not smudging/"scuffing"
- adjustment to be made if the sheet will not leave the folding unit
- steps necessary to set up the gluing units
- care that should be taken to ensure a neat and clean gluing job
- adhesive that is used in the gluing unit
- adjustment of the length of the glue line
- causes of out-of-square folding and explain how each may be corrected
- segments of quality assurance that would be inspected at the completion of the sample run
- communication action that should be instigated if the job is out-of-square
- communication action that should be instigated if ink is too wet for production
- communication action that should be instigated if the job does not coincide with the sample
- areas of the machine that should be adjusted if carton blank is creasing
- areas of the machine that should be adjusted if carton blank is not entering the machine
- items that must be checked against the client's sample
- machine manuals and safety documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Set up machine to produce complex cartons as required in normal production on, for example, a Royal 40, a Bobst Media or a Bobst Domino • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Set up at least THREE crash lock, six-corner and specialty work carton jobs, using different sizes and weights of cartons and including use of multiple gluing units, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these • off the job assessment must be undertaken in a closely simulated workplace environment • access to a Royal 40, Bobst Media or Bobst Domino machine that may include multiple gluing units.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Glue</i> may include:	<ul style="list-style-type: none"> • PVA and holt melt glue.
<i>Machinery</i> may include:	<ul style="list-style-type: none"> • a Royal 40, a Bobst Media, a Bobst Domino and may include the use of multiple gluing units.
<i>Carton board</i> may include:	<ul style="list-style-type: none"> • different sizes and weights of cartons.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF425C Set up machine for complex flat-bed die cutting or embossing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a machine for complex flatbed die cutting or embossing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a machine for complex flat-bed die cutting or embossing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare job	<p>1.1. Job specifications are read and interpreted from job documentation or production control system</p> <p>1.2. Set-up is planned and carried out correctly in minimum time with minimum wastage</p> <p>1.3. Availability of all job related components is checked</p>
2. Prepare flat-bed die cutting or embossing devices	<p>2.1. Appropriate cutting devices or dies are selected and secured to machine according to job specifications</p> <p>2.2. Cutting devices or dies are registered and proofed according to job specifications</p> <p>2.3. Cutting devices or dies are correctly mounted</p>
3. Set up reel system (OR Element 4)	<p>3.1. Unwind and rewind reels are set up and adjusted according to job specifications</p> <p>3.2. Webbing procedures are carried out according to job specifications</p> <p>3.3. Web control system is set up and adjusted according to job specifications</p> <p>3.4. Reels are spliced/joined according to job specifications</p>
4. Set up sheet system (OR Element 3)	<p>4.1. Feeder and delivery systems are set up and adjusted according to job specifications</p> <p>4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications</p> <p>4.3. Transfer and control systems are set up and adjusted according to job specifications</p> <p>4.4. Folder and sheeter are set up and adjusted according to job specifications</p> <p>4.5. Substrate is removed from process according to job specifications</p>
5. Set up machine for complex flat-bed die cutting or embossing	<p>5.1. Flat-bed cutting devices are set up and adjusted according to job specifications</p> <p>5.2. Cutting pressures are set up and adjusted according to job specifications</p> <p>5.3. Machine lays are set to correct position to register</p>
6. Set up in-line units	<p>6.1. Minor in-line printing/convertng/binding units are set up for basic processes and adjusted according to machine requirements and job specifications</p> <p>6.2. Assistance is given in set up of major in-line printing/convertng/binding units</p>

ELEMENT	PERFORMANCE CRITERIA
7. Conduct sample run	7.1. Material to be used for sample is organised correctly 7.2. Machine is set up and operated to produce a specified sample according to OHS requirements, manufacturer's specifications and enterprise procedures 7.3. Sample is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Results are interpreted to determine adjustment requirements 7.5. Adjustment changes are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when reading and interpreting job requirements from the job documentation
- planning and organising when setting up the machine for operation
- teamwork when confirming the sample with the supervisor
- applying mathematical ideas and techniques when positioning the forme and counters
- using technology by using machines
- problem solving by interpreting results to determine adjustment requirements

Required knowledge

- information concerning flat-bed die cutting or embossing
- information to ensure smooth workflow throughout the factory
- factors that must be considered when deciding on a cutting system
- methods for registering and proofing the cutting devices
- checked when the cutting devices are secured to the machine
- criteria for determining the selection of particular cutting devices
- OHS concerns when setting up reel transportation systems
- adjustments to the unwind reel may be needed to suit various jobs
- important areas to be considered during webbing procedures
- adjustments available to the web
- splicing/joining the web
- areas of the reel delivery system that may need to be adjusted according to job specifications
- steps that should be taken to ensure that the delivery system operates effectively
- adjustment to the sheeter during production
- adjustment to the folder during production
- adjustment to the rewind wheel during production
- OHS factors that must be considered when setting up and/or operating sheet transport and delivery systems
- important areas of the feeder unit set up
- accurate sheet pick-up and transportation
- areas of the delivery system that should be observed to maintain neat delivery of finished work
- areas of the delivery system that should be observed to prevent damage to the

REQUIRED SKILLS AND KNOWLEDGE

- finished product
- securing finished product for dispatch
- OHS factors that must be considered when setting up cutting devices
- setting up, adjusting and operating flat-bed cutting devices
- machine pressure
- machine cutting depths
- adjusting in-line units
- suitability of in-line processes
- largest/smallest size sheet that can be processed on this machine
- conformance with the client's requirements
- product testing procedures
- common faults with the flat-bed cutting process
- replacement of knives/blades/cutting edges
- storage of cutting edges to guard against damage and deterioration
- machine manuals, safety and other documentation are relevant to this task and where are they kept and information is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly set up machines for complex flat-bed die cutting or embossing according to job specifications and within the production timeframe • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • competency must be demonstrated on EITHER flat-bed die cutting OR embossing. For either process set up TWO jobs changing the type and size of substrates and design of finished patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> flat-bed die and forme cutting and embossing.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies or cutting formes and manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> simple or multiple shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF426C Produce complex flat-bed die cut or embossed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex flat-bed die cutting or embossing.
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Application of the Unit

Application of the unit	This unit describes the skills and knowledge required for complex flat-bed die cutting or embossing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel (OR Element 2)	1.1. Reel stand and reel rewind section are monitored and adjusted to ensure efficient continuous operation and to maintain correct tension and to ensure no marks, blemishes or damage to finished product 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job specifications
2. Maintain operation of sheet transportation system on sheet-fed machine (OR Element 1)	2.1. Feeder and delivery systems are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up, transport system and sheeting section are monitored and adjusted to ensure accurate and continuous sheet handling and an efficient operation and quality product 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to process according to job specifications
3. Maintain complex flat-bed cutting process	3.1. Knife condition is monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.2. Cutting pressures are monitored and adjusted to ensure the quality of product meets the standard of the approved sample 3.3. Registration of knife(s) is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.4. Packing of cutting devices is monitored and adjusted to ensure quality of product meets the standard of the approved sample 3.5. In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure the quality of product meets the standard of the approved sample
4. Maintain operation of production process	4.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.2. Production is maintained according to OHS

ELEMENT	PERFORMANCE CRITERIA
	<p>requirements, manufacturer's specifications and enterprise procedures</p> <p>4.3. Manual and/or automatic control is used according to job specifications</p> <p>4.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.5. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.6. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.7. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.8. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Problem in cutting (<i>flat-bed</i>) machine operation is identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level</p> <p>5.3. Cutting (flat-bed) machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Substrate waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.5. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean flat-bed cutting machine at end of run	<p>7.1. Knife and machine bed are cleaned ready for next run</p> <p>7.2. Cutting devices are sharpened correctly according to OHS requirements and enterprise procedures</p> <p>7.3. Cutting machine is disengaged and cleaned ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>7.4. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.5. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.6. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when reading and interpreting job requirements from the job documentation
- planning and organising when setting up the machine for operation
- teamwork when confirming the sample with the supervisor
- applying mathematical ideas and techniques when positioning the forme and counters
- using technology by using machines
- problem solving by interpreting results to determine adjustment requirements

Required knowledge

- OHS factors that must be considered when setting up and/or operating machine transport systems
- areas of the reel stand that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- area of the web control system that should be adjusted to maintain correct positioning of the web
- areas of the sheet-fed feeder that should be monitored to ensure trouble-free operation
- parts of the sheet pick-up system that are to be adjusted to ensure accurate and continuous sheet handling
- OHS factors that must be considered when setting up and/or operating machine delivery systems
- areas of the delivery system that should be observed to maintain tension
- areas of the delivery system that should be observed to prevent damage to the finished product
- checks to be made when substrate is removed from the machine
- OHS factors that must be considered when maintaining the cutting process
- indicators that demand the replacement of a knife
- checks to be made when cutting pressure is adjusted
- ways in which registration can be guaranteed
- production difficulties that can be expected during production runs
- OHS factors that must be considered when problem solving on the machine maintaining the cutting process
- checks to be made when packing cutting devices

REQUIRED SKILLS AND KNOWLEDGE

- checks to be made when correcting dull cutting edges on equipment
- checks to be made when correcting the depth of embossing
- checks to be made when correcting out-of-square results
- OHS factors that must be considered when conducting machine shutdown procedures
- checks to be made when waste is removed from the machine and surrounding area for disposal or recycling
- checks to be made when shutting down the machine
- checks to be made when the cutting devices or knives are cleaned or replaced ready for the next run
- areas of the machine that require cleaning at the end of the run
- production records that need to be kept or written up
- information that should be included in this reporting procedure
- quality aspects that should be considered in a completed cutting job
- steps that should be taken to ensure that important features of the production control system are followed
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce complex flat-bed die cut or embossed product with different substrates, sizes and patterns according to job specifications demonstrate all safety devices on the machine competency must be demonstrated on EITHER flat-bed die cutting OR embossing. For either process produce TWO complex jobs (including in-line processes) with different substrates, sizes and patterns according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria demonstrate use of computerised control, monitoring and data entry systems if available and appropriate evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet handling systems.
<i>Cutting process</i> may include:	<ul style="list-style-type: none"> flat-bed die and forme cutting, embossing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Flat-bed cutting units</i> may include:	<ul style="list-style-type: none"> a range of machines with dies, cutting formes or drills and manual, semi-automated, fully automated or computerised process control.
<i>Shapes</i> may include:	<ul style="list-style-type: none"> complex or multiple shapes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units		

ICPCF465C Set up and produce hand-bound book

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce hand-bound books.
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Application of the Unit

Application of the unit	This unit requires the individual to set up for hand bookbinding. Some elements of this competency are also included in ICPCF467C Restore books.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation 1.2. All necessary materials are assembled according to job specifications
2. Complete adhesive binding/tipping	2.1. Sheets are fanned and masked every 3-4 mm 2.2. A thin even coating is applied on area of sheet designated for tipping 2.3. Correct adhesive is applied to achieve a good bond 2.4. Tipped sheet is accurately positioned
3. Number book	3.1. Sheets are placed in correct sequence and numbered correctly according to job specifications 3.2. Numbering machine is set for appropriate number of copies eg duplicate, triplicate 3.3. Sheets are knocked up squarely without damage
4. Index book	4.1. Index is spaced correctly and evenly 4.2. Durable square, clean and neat cut tabs or cut-outs are constructed 4.3. Headings are constructed legible and permanent
5. Apply adhesive binding/padding by hand	5.1. Product is knocked up squarely to spine and head with boards inserted between pads 5.2. Spine folds are completely removed from sections in guillotine 5.3. Adequate spine margin is preserved 5.4. Appropriate number of saw cuts are made in work 5.5. Edge of spine is roughened sufficiently to improve adhesion 5.6. Thin even application of appropriate adhesive is applied 5.7. Book is fanned before gluing (except for pads) to ensure in Book is assessed after drying with thorough adhesion 5.8. creased surface coverage
6. Sew sections	6.1. Appropriate sewing supports are selected and spaced according to job specifications 6.2. Consistent thread tension is maintained during sewing 6.3. Sections are aligned at the head 6.4. Swelling is monitored and controlled

ELEMENT	PERFORMANCE CRITERIA
7. Forward the book	7.1. Spine is glued, rounded and backed 7.2. Spine lining is attached 7.3. Text block is covered (board attached) 7.4. Text block is cased in
8. Block the book	8.1. Image is blocked into required position according to job specifications
9. Hand finish the book	9.1. Hand finish book according to job specifications 9.2. Typeface size and type are appropriate 9.3. Design is in keeping with the period of publication 9.4. An even impression is applied

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when clarifying job specifications
- planning and organising when assembling all the necessary materials based on the job specifications
- teamwork when maintaining the production process in association with others
- applying mathematical ideas and techniques when numbering sheets in the correct sequence
- using technology when pressing the book
- problem solving when determining the original page securing method

Required knowledge

- OHS concerns that are there when hand binding
- term "viscosity"
- grain direction in relation to the tipping operation
- recommended tipping width for endpapers
- recommended adhesive to be used in tipping
- checks to be made when the numbering machine is set for duplicate/triplicate numbering
- checks to be made when the numbering machine is re-inked
- setting a given number on the machine
- different types of indices
- ways to reinforce an index
- process for the index to be evenly and correctly spaced down the sheet
- adhesives that are not recommended for padding
- unsuitable adhesives for padding
- terms "pH", "viscosity", "open time", "tack", "specific adhesion", "molecular adhesion" and "mechanical adhesion"
- techniques that are available to ensure the permanent adhesion of the padded sheets
- ways in which the padding operation can be accelerated
- methods of hand sewing
- important considerations to be addressed when setting up for sewing
- use of a sewing frame
- "Cord" (calliper) thread that is suitable for sewing 8pp sections
- checks to be made when the sewing thread is joined during the sewing operation
- checks to be made when the sewing operation is finished off

REQUIRED SKILLS AND KNOWLEDGE

- result of the sewing being too loose/too tight
- important result that must be achieved when gluing the spine of the book
- result if the spine glue was too thick/too thin
- recognition of a correct round in a book spine
- problems that may occur if too much round is applied to the spine
- problems that may occur if insufficient round is applied to the spine
- different spine linings
- reasons for spine linings
- special techniques that are applied to 2-on 2-off spine linings
- important considerations to be given to spine linings
- direction that the grain should be directed in spine linings
- result if the grain direction in the spine lining was incorrect
- recognition of good corner
- recommended turn-in
- steps to ensure a clean job
- "Trimming-out" a case
- correct board calliper on a book?
- micron board that is recommended on a book 5 mm thick
- monitoring when casing-in a book
- procedures that ensure a good blocking result
- checks to be made when positioning type on the spine of a book
- checks to be made when positioning type on the front of a book
- term "blind blocking"
- methods of hand finishing a book cover
- criteria that are used to ensure an appropriate typeface is selected
- criteria that are used to ensure the design chosen corresponds with the era of the book
- considerations that should be given to the hand finishing of the book
- result of uneven impressions
- machine manuals and safety documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly set up and produce a hand-bound book according to job specifications and within the production timeframe demonstrate an ability to find and use information relevant to the task from a variety of information sources set up for and produce AT LEAST THREE hand-bound books that between them incorporate each of the listed Elements (pulling down and section sewing to be done on multi-section - minimum ten sections - book) and use a range of substrates, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of equipment</i> may include:	<ul style="list-style-type: none"> range of tools, equipment and machines.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPCF467C Restore books

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to restore books.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and restore a book.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess physical condition of book to be rebound/restored	1.1. Physical construction and binding style of the book are identified 1.2. Areas of damage and weakness are identified and recorded
2. Identify and select treatment options	2.1. Paper and cover cleaning options are assessed 2.2. Paper and cover repair options are assessed 2.3. Ethical/rarity/value cost alternatives are evaluated 2.4. Treatment options are discussed with owner
3. Assemble materials for binding	3.1. Materials and <i>equipment</i> are assembled according to job specifications 3.2. Binding equipment set up according to job specifications
4. Dissect/pull down book	4.1. Original page securing method and section structure are determined 4.2. Cover/endpapers, threads and stitches are removed with minimal damage to sections and text 4.3. Sheets and sections are cleaned with minimal damage 4.4. Dog-ears are straightened with old joints flattened 4.5. Book is pressed
5. Treat paper	5.1. Paper is cleaned using dry or wet methods as appropriate 5.2. Paper is de-acidified if necessary by most appropriate method 5.3. Paper is repaired and/or reinforced using appropriate methods 5.4. Paper is resized if required 5.5. New paper is tinted to resemble original if requested 5.6. Wire stitches or sewing threads are removed 5.7. Original adhesive is removed without damaging the book
6. Resew book	6.1. Appropriate sewing supports are selected and spaced according to job specifications 6.2. Consistent thread tension is maintained during sewing 6.3. Sections are aligned at the head 6.4. Swelling is monitored and controlled 6.5. Headbands are re-sewn if necessary

ELEMENT	PERFORMANCE CRITERIA
7. Forward the book by hand	7.1. Old spine and sides and turn-ins are lifted and reattached if rebacking is necessary 7.2. Edges are knocked up into original alignment 7.3. Round and back spine are glued 7.4. Spine lining is attached 7.5. Appropriate corner repairs on coverboards are carried out 7.6. Boards are reattached 7.7. New covering material is tinted to resemble original if requested 7.8. Text blocks are covered or rebacked 7.9. Endpapers are pasted down or hinge realigned 7.10. Book is opened after pressing
8. Finish the book by hand	8.1. Hand finish book according to job specifications 8.2. Typeface size and type are appropriate 8.3. Design is in keeping with the period of publication 8.4. An even impression is applied

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS when ensuring that the work area is safe and ready for production according to safety requirements
- communication skills when discussing treatment options with the owner
- planning and organising when assembling all the necessary materials based on the job specifications
- teamwork when maintaining the production process in association with others
- applying mathematical ideas and techniques when evaluating ethical/rarity/value cost alternatives
- using technology when re-covering a book
- problem solving when identifying and selecting treatment options

Required knowledge

- physical condition of a book to be rebound/restored
- factors that would render a book unsuitable for restoration/rebinding
- suggested options for a book unsuitable for restoration/rebinding
- areas of a book that are most commonly in need of attention
- areas of weakness and damage that are identified and recorded
- identifying and selecting treatment options
- paper and cover cleaning options that are available
- methods of repairing a tear in paper
- replacement of a missing corner on a book page
- need to reback a book
- steps that should be taken when repairing a coverboard corner
- methods of treating aged leather
- assembling materials for binding
- OHS factors that need to be considered when restoring books
- tools used when gold finishing books
- adhesives used in book restoration and repair and describe under what circumstances each would be used
- covering materials and indicate where each would be used
- styles of book edge decoration
- methods of tanning leather
- covering material selection for a given job
- monitoring during the paring leather
- sharpening knives for leather paring
- types of leather commonly used in bookbinding

REQUIRED SKILLS AND KNOWLEDGE

- term "skiver"
- different page securing methods
- method of removing endpapers with minimal damage
- method of cleaning sections without damage
- terms "dog-ears" and "joints"
- special care that should be taken when removing wire stitches/sewing thread
- methods of removing the adhesive from the book spine
- types of adhesive that would you expect to find on book spines
- methods of removing each particular adhesive
- methods of hand sewing
- important considerations to be addressed when setting up for sewing
- use of a sewing frame
- Choosing the thickness of thread to use
- Checks to be made when the sewing thread is joined during the sewing operation
- Checks to be made when the sewing operation is finished off?
- result if the sewing is too loose/too tight
- hand-worked headband styles
- important result that must be achieved when gluing the spine of the book
- result if the spine glue was too thick/too thin
- recognition of a correct spine shape
- problems that may occur if too much round is applied to the spine
- problems that may occur if insufficient round is applied to the spine
- different spine linings and the styles on which they are used
- reasons for spine linings
- special techniques that are applied to 2-on 2-off spine linings
- important considerations to be given to spine linings
- recognition of a good corner
- recommended turn-in
- steps to ensure a clean job
- trimming-out
- correct board calliper on a book
- micron board that is recommended on a book 5 mm thick
- monitoring when casing-in a book
- methods of hand finishing a book cover
- criteria that are used to ensure an appropriate typeface is selected
- criteria that are used to ensure the design chosen corresponds with the era of the book
- result of uneven impressions
- method that could be used to correct an error in finishing the title
- quality aspects that would be found in a competently restored book

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• steps that should be taken to ensure the cost effectiveness of book restoration• maintaining the rarity component of a book• machine manuals and safety documentation that are relevant to this task, where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly restore a book according to job specifications and within the production timeframe demonstrate an ability to find and use information relevant to the task from a variety of information sources assess the physical condition of TWO books to be restored/rebound (ONE requiring rebacking and ONE requiring rebinding) and carry out restoration according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Types of equipment</i> may include:	<ul style="list-style-type: none"> range of tools, equipment and machines.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working to defined procedures and in consultation with other relevant persons to ensure production requirements have been met.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Converting, Binding and Finishing
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Co-requisite units

Co-requisite units	

ICPIM211C Select and prepare materials for production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare materials for ink and varnish manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare materials for ink and varnish manufacture.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements and locate materials	<p>1.1. Material requirements and quantities are correctly identified from documentation</p> <p>1.2. Materials are located and checked according to enterprise procedures</p> <p>1.3. Required quantities of material are confirmed and shortages and/or defective materials reported/recorded</p>
2. Prepare materials	<p>2.1. Weighing/measuring devices are checked for accuracy and reset if required</p> <p>2.2. Bowls, vats, tanks and pots are selected according to job specifications and checked to ensure they are free from contamination</p> <p>2.3. Quantities of material are weighed/measured</p> <p>2.4. Materials are prepared according to enterprise procedures</p> <p>2.5. Quality checks are undertaken according to enterprise procedures</p> <p>2.6. Materials are adjusted to conform to job specifications</p>
3. Transfer prepared materials to production area	<p>3.1. Prepared materials are correctly stored/transferred/located</p> <p>3.2. Documentation is accurately completed according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communicating ideas and information by completing workplace documentation
- collecting, analysing and organising information by identifying job requirements and relevant materials
- planning and organising activities by preparing materials prior to production
- teamwork when contributing to the production process in association with others
- mathematical ideas and techniques by identifying required materials and recording quantities
- problem-solving skills by checking instruments for accuracy and recalibrating
- use of technology by using equipment to prepare materials

Required knowledge

- potential health hazards that is involved in the selection and preparation of materials for ink production
- pollution and environmental issues that need to be considered when working with the raw materials used in ink production
- enterprise procedures and policies that are in place to deal with OHS and environmental hazards
- safety equipment that is required and what do you need to check when fitting and using it
- details that are required for selection of materials for ink production
- determining whether a material is defective
- procedure if there is a material shortage
- checks to be made when measuring each of the types of materials required for ink production
- range of measuring devices used in the work area, how accuracy checks are conducted and procedures for resetting the devices
- checks to be made when preparing containers for ink production
- checks to be made when preparing materials
- methods for checking and adjusting materials
- responsibility for approving prepared materials prior to commencement of production
- procedures for recording the quantities and formulation
- equipment that is used to transfer materials to the preparation area
- manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly prepare materials for ink and varnish manufacture according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources select, measure and prepare TWO batches of materials for use in the production of ink or chemicals, according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Application</i> may include:	<ul style="list-style-type: none"> • selection/assembly of materials is typically performed by operators, weighers, mixers or stores personnel working under supervision to ensure production requirements are met.
<i>Documentation</i> may include:	<ul style="list-style-type: none"> • range of records including: <ul style="list-style-type: none"> • formulae • job dockets • work sheets • job cards • manufacturing orders • specifications • labels • material safety data sheets.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
<i>Materials</i> may include:	<ul style="list-style-type: none"> • range of raw materials, packaging materials and consumables.
<i>Weighing/measuring devices</i> may include:	<ul style="list-style-type: none"> • measuring equipment including: <ul style="list-style-type: none"> • scales • flow meters • graduated vessels.
<i>Containers</i> may include:	<ul style="list-style-type: none"> • vessels that include: <ul style="list-style-type: none"> • pans • vats • bowls • tanks • drums • tins • hoppers • bins

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pails • pots.
<i>Machines/equipment</i> may include:	<ul style="list-style-type: none"> • pallet mover • drum lifter • wheelbarrow.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		

ICPIM221C Blend chemicals

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to blend chemicals for ink and varnish manufacture.
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Application of the Unit

Application of the unit	This unit requires the individual to blend chemicals for ink and varnish manufacture.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements and locate materials	1.1. Appropriate processes are identified and confirmed The original is assessed to determine scanner settings 1.2. Appropriate chemicals, inks, <i>materials</i> and/or equipment are selected according to job specifications
2. Set up machines/equipment	2.1. Pre-startup checks are completed and documented according to <i>enterprise procedures</i> 2.2. Raw materials/feed lines are checked to ensure availability 2.3. <i>Machine/equipment</i> operation is verified according to enterprise procedures
3. Maintain blending/homogenising process	3.1. Mix is completed according to enterprise procedures and <i>OHS</i> requirements 3.2. Materials are added to the process according to job specifications 3.3. Quality inspection/sampling is carried out according to enterprise procedures 3.4. <i>Adjustments</i> to mix/equipment are made to correct identified quality problems 3.5. Records/log/checklists are completed according to enterprise procedures
4. Shut down	4.1. Correct <i>shutdown</i> sequence is followed according to manufacturer's specifications and enterprise procedures 4.2. Product/materials used in manufacture are removed from operating area where appropriate 4.3. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures
5. Clean up	5.1. Equipment cleaning requirements are identified 5.2. Correct equipment/materials for manual or mechanical cleaning are selected 5.3. Cleaning is undertaken according to enterprise procedures and <i>OHS</i> requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communications ideas and information by completing logs and checklists according to enterprise procedures
- collecting, analysing and organising information by reading and interpreting job requirements from documentation
- planning and organising activities by completing startup checks prior to the blending process
- teamwork when contributing to the production process in association with others
- mathematical ideas and techniques by mixing batches according to job specifications
- problem-solving skills by making adjustments to the mix to maintain quality standards
- use of technology by using blending machines and equipment

Required knowledge

- OHS considerations when cleaning bowls, vats, and pots
- other OHS issues that arise in the blending of chemicals and use of an automated ink dispensing system
- safety equipment that is required and what do you need to check when fitting and using it
- batch coding system used in the work area and the recording procedures used
- procedures for preparing containers and equipment for blending/tinting
- checks to be made when measuring chemicals for blending
- procedures that apply to adding chemicals according to formulae
- purpose and process of homogenisation
- purpose of de-ionising water when it is to be used in the blending process
- procedures that apply to constructing a correct colour according to a formula
- factors that determine the position of the mixing head when blending
- procedures for testing conductivity, viscosity and pH, where in-process testing is conducted
- sampling and testing process
- problems that may occur in the tinting process and how these may be overcome
- recording and labelling procedures that apply
- environmental issues that need to be considered when working with the range of materials used in chemical blending/tinting
- manuals, safety and other documentation that are relevant to this task and where

REQUIRED SKILLS AND KNOWLEDGE

they are kept and information that is included in these documents

Evidence Guide**EVIDENCE GUIDE**

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Evidence of the following is essential:

- correctly blend chemicals for ink and varnish manufacture according to job specifications
- demonstrate an ability to find and use information relevant to the task from a variety of information sources
- use either a mixer/disperser OR a bead mill OR an automatic ink dispensing system to blend TWO batches of chemicals OR tint TWO batches of ink intermediates/concentrates according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Materials may include:	<ul style="list-style-type: none"> range of raw materials/consumables, and chemicals used in cleaning.
Enterprise procedures may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
Machines/equipment may include:	<ul style="list-style-type: none"> machines/equipment may include high and low speed dispersers, pan washer/scrubbers, pumps, valves, automatic ink dispensing system, homogeniser, de-ioniser, other vessels.
OHS may include:	<ul style="list-style-type: none"> relevant legislation regulations enterprise policies/guidelines.
Adjustments/corrections may include:	<ul style="list-style-type: none"> in the range from normal operating to emergency response.
Shutdown may include:	<ul style="list-style-type: none"> in the range from planned shutdown to emergency response.
Application may include:	<ul style="list-style-type: none"> chemical blending/tinting and associated tasks are typically performed by operators working under supervision to ensure production requirements are met.
Documentation may include:	<ul style="list-style-type: none"> range of work instructions including: <ul style="list-style-type: none"> formulae job docketts work sheets specifications labels material safety data sheets.
Degree of autonomy may include:	<ul style="list-style-type: none"> working under supervision to defined procedures.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		

ICPIM251C Filter and pack product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to filter and pack ink and varnish products.
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Application of the Unit

Application of the unit	This unit requires the individual to filter and pack ink and varnish products.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements from documentation	1.1. Product to be filtered is identified from job specifications 1.2. Type/size of packing container is identified from job specifications
2. Set up for filtering and packing	2.1. Filtering requirements are identified from job specifications 2.2. The correct filter is selected and fitted according to <i>enterprise procedures</i> 2.3. Appropriate packaging <i>containers</i> are identified and selected according to job specifications 2.4. Containers are checked to ensure that they are free from contamination
3. Filter and pack product	3.1. Product is filtered according to enterprise procedures and OHS requirements 3.2. Product is sampled and tested according to enterprise procedures 3.3. The correct amount of approved product is tinned off according to enterprise procedures 3.4. Container is correctly labelled according to enterprise procedures 3.5. Packed product is stored/despached according to job specifications
4. Complete documentation	4.1. <i>Documentation</i> is completed according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communicating ideas and information by completing documentation according to enterprise procedures
- collecting, analysing and organising information by sampling and testing product according to quality standards
- planning and organising activities by setting up for filtering according to job specifications
- teamwork when completing the packing in association with fellow workers
- mathematical ideas and techniques by identifying correctly sized containers
- problem-solving skills by selecting the correct filter
- use of technology by using filtering equipment

Required knowledge

- potential health hazards involved in the filtering and packing of products
- pollution and environmental issues that need to be considered when working with ink/chemical products
- enterprise policies and procedures that are in place to deal with OHS and environmental hazards
- safety equipment that is required and what do you need to check when fitting and using it
- details that are required for the correct selection of packaging containers
- details that are required for the correct selection of filter(s)
- factors that determine the selection of filters
- checks to be made when fitting the filter
- contaminants that can be present and how are they eliminated
- maintenance of quality of the product (viscosity, skin forming) throughout the filter/pack process
- sampling/testing procedures
- problems that may occur in extruding the product and how are they overcome
- weighing methods that are used in the work area
- system that is in place for labelling and storage of packed product
- manuals, safety and other documentation that are relevant to this task and where they are kept

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly filter and pack ink and varnish products according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • filter and pack ink/chemical products into TWO types of packaging container using the correct filtering procedures according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
<i>Containers</i> may include:	<ul style="list-style-type: none"> Range of packaging containers including pails, tins, drums, bins.
<i>OHS</i> may include:	<ul style="list-style-type: none"> Includes relevant legislation, regulations and enterprise policies/guidelines.
<i>Documentation</i> may include:	<ul style="list-style-type: none"> Range of work instructions including formulae, job docket, work sheets, enterprise procedures (SOPs), manufacturing orders (MOs), specifications, labels, coding systems, material safety data sheets, and computer entry requirements.
<i>Application</i> may include:	<ul style="list-style-type: none"> Filtering and packing of product is typically performed by operators working under supervision to ensure that quality standards are maintained.
<i>Machines/equipment</i> may include:	<ul style="list-style-type: none"> Machines/equipment/materials may include pumps, filters, weighing scales, spatulas, cardboard, wax paper, vacuum pack systems, and lifting/shifting devices.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		

ICPIM331C Manufacture inks and coatings

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture inks and coatings.
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Application of the Unit

Application of the unit	This unit requires the individual to manufacture inks and coatings.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements from documentation	1.1. Appropriate processes are identified and confirmed 1.2. Appropriate <i>materials</i> and/or equipment are selected according to job specifications
2. Set up machines/equipment	2.1. Pre-startup checks are completed and documented according to <i>enterprise procedures</i> 2.2. Raw materials/feed lines are checked to ensure availability 2.3. Stirrer, mixer, pots and vats are checked to ensure they are free from contamination 2.4. <i>Machine/equipment</i> operation is verified according to enterprise procedures
3. Maintain blending process	3.1. Mix is completed in association with fellow workers according to enterprise procedures and <i>OHS</i> requirements 3.2. Materials are added to the process according to job specifications 3.3. Quality inspection/sampling is carried out according to enterprise procedures 3.4. <i>Adjustments</i> to mix/equipment are made to correct identified quality problems
4. Maintain ink/coating milling process	4.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 4.2. Production is maintained according to OHS requirements and enterprise procedures 4.3. Milling process and equipment are monitored during batch manufacture to ensure operation is maintained 4.4. Machines/equipment are inspected, adjusted as required and readouts recorded and interpreted 4.5. Quality inspections/sampling are undertaken according to enterprise procedures 4.6. Records/log/checklists are completed according to enterprise procedures
5. Maintain operation of equipment/process conditions	5.1. Variations/irregularities of equipment operation or process conditions are identified and reported 5.2. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention according to enterprise

ELEMENT	PERFORMANCE CRITERIA
	<p>procedures</p> <p>5.3. Corrective action is documented and reported according to enterprise procedures</p>
<p>6. Shut down liquid ink/coating blend/milling process</p>	<p>6.1. Pre-shutdown checks are carried out and documented according to enterprise procedures</p> <p>6.2. Correct <i>shutdown</i> sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.3. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.4. Product/materials used in manufacture are removed from operating area where appropriate</p> <p>6.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
<p>7. Clean up</p>	<p>7.1. Equipment cleaning requirements are identified</p> <p>7.2. Correct equipment/materials for manual or mechanical cleaning are selected</p> <p>7.3. Cleaning is undertaken according to enterprise procedures and OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communicating ideas and information by completing logs and checklists during manufacturing
- collecting, analysing and organising information by sampling the mix to maintain quality standards
- planning and organising activities by completing startup checks prior to manufacture
- teamwork when completing the mix in association with fellow workers
- mathematical ideas and techniques by correctly measuring materials required for the mix
- problem-solving skills by anticipating production difficulties and taking preventive action
- use of technology by using manufacturing and measuring equipment

Required knowledge

- safety requirements for adding powders during the mixing stage of ink manufacture
- OHS considerations when cleaning bowls, vats, and pots
- other OHS issues that arise in the manufacture of ink or coatings
- safety equipment that is required and what do you need to check when fitting and using it
- batch coding system used in the work area and the recording procedures used
- checks to be made when preparing containers and equipment for ink/coating manufacture
- checks to be made when measuring raw materials for ink production
- factors that determine the position of the mixing head
- purpose of using low speed early in the mixing process
- function of antioxidants in the mixing process
- action taken when the mixture has a skin on it
- particular requirements for coating manufacture
- characteristics of the end product of the mixing phase of ink manufacture
- purpose of milling ink
- ideal conditions for milling ink
- adjusted of the mill for low or high grind values
- procedures for potting off the mill
- system that is in place for labelling containers of ink
- sampling and testing procedures that are used at each stage of the ink or coating

REQUIRED SKILLS AND KNOWLEDGE

manufacture process

- in-process testing and how is the grind of the ink determined
- checks of the ink texture and viscosity that are made during the milling process
- environmental issues that need to be considered when working with the range of materials used in the manufacture of ink/coatings
- manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly manufacture inks and coatings according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • use a mixer/disperser and EITHER a bead mill OR a 3-roll mill to manufacture TWO batches of ink/coating according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Materials may include:	<ul style="list-style-type: none"> Range of raw materials/consumables, pigment, varnish, inks, chemicals used in cleaning.
Enterprise procedures may include:	<ul style="list-style-type: none"> Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
Machines/equipment may include:	<ul style="list-style-type: none"> Machines/equipment may include high and low speed dispersers, mills, pan washer/scrubbers, pumps, valves, other vessels.
OHS may include:	<ul style="list-style-type: none"> Includes relevant legislation, regulations and enterprise policies/guidelines.
Adjustments/corrections may include:	<ul style="list-style-type: none"> In the range from normal operating to emergency response.
Shutdown may include:	<ul style="list-style-type: none"> In the range from planned shutdown to emergency response.
Application may include:	<ul style="list-style-type: none"> Liquid ink/coating manufacture and associated tasks are typically performed by operators working under limited supervision to ensure production requirements are met.
Documentation may include:	<ul style="list-style-type: none"> Range of work instructions including formulae, job dockets, work sheets, specifications, labels, material safety data sheets.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		

ICPIM335C Manufacture varnish and resin

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture varnishes and resins.
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Application of the Unit

Application of the unit	This unit requires the individual to manufacture varnishes and resins.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements from documentation	1.1. Appropriate <i>processes</i> are identified and confirmed 1.2. Appropriate <i>materials</i> and/or equipment are selected according to job specifications
2. Start up machines/equipment	2.1. Pre-startup checks are completed and documented according to <i>enterprise procedures</i> 2.2. Utilities are checked 2.3. Raw materials/feed lines are checked to ensure availability 2.4. Pre-startup conditions are reported according to enterprise procedures 2.5. Startup is conducted according to enterprise procedures 2.6. Machine/equipment operation is verified according to enterprise procedures
3. Maintain varnish/resin production process	3.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.2. Production is maintained according to <i>OHS</i> requirements and enterprise procedures 3.3. Process and equipment are monitored during batch manufacture to ensure operation is maintained 3.4. Records/log/checklists are completed according to enterprise procedures 3.5. <i>Machines/equipment</i> are inspected and readouts recorded and interpreted 3.6. Quality inspections/sampling are undertaken according to enterprise procedures 3.7. Consumables are monitored and added to the process according to job specifications
4. Maintain operation of equipment/process conditions	4.1. Variations/irregularities of equipment operation or process conditions are identified and reported 4.2. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention according to enterprise procedures 4.3. Corrective action is documented and reported according to enterprise procedures
5. Shut down varnish/resin	5.1. Pre-shutdown checks are carried out and documented according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
manufacture process	<p>5.2. Correct <i>shutdown</i> sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.3. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.4. Product/materials used in manufacture are removed from operating area where appropriate</p> <p>5.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>
6. Clean up	<p>6.1. Equipment cleaning requirements are identified</p> <p>6.2. Correct equipment/materials for manual or mechanical cleaning are selected</p> <p>6.3. Cleaning is undertaken according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communicating ideas and information by completing logs and checklists during manufacturing
- collecting, analysing and organising information by sampling the mix to maintain quality standards
- planning and organising activities by completing startup checks prior to manufacture
- teamwork when completing the mix in association with fellow workers
- mathematical ideas and techniques by correctly measuring materials required for the mix
- problem-solving skills by anticipating production difficulties and taking preventive action
- use of technology by using manufacturing and measuring equipment

Required knowledge

- OHS concerns that are related to the production of varnish/resin
- manual handling issues that arise in the manufacture of varnish/resin
- safety equipment that is required and what do you need to check when fitting and using
- equipment that is required for the manufacture of varnish
- batch coding system used in the work area and the recording procedures used
- checks to be made when measuring materials
- properties that ink gains from the two basic components of varnish, resins and solvents
- characteristics and end use of gelled and non-gelled varnishes
- check to be made when preparing for filtration
- ideal conditions for filtration of varnish/resin product
- pre-startup checks that are required for TWO processes in varnish or resin manufacture
- effect that water contamination has on the manufacture of varnish/resin and what steps should be taken to avoid it
- procedures for adding liquids or solids to a varnish/resin mix
- system that is in place for labelling containers of varnish/resin
- monitoring requirements for energy plant operation
- inspections/monitoring that is carried out during varnish/resin production
- quality checks that are required during the filtration process

REQUIRED SKILLS AND KNOWLEDGE

- methods that are available for testing viscosity of varnish/resin
- manner in which the viscosity of a batch of varnish/resin increased
- procedure if the viscosity is too low
- procedures for recording details about the formulations, and in-process testing where required
- system for the disposal of liquid and solid waste
- environmental issues that need to be considered when working with varnish, resin, and chemicals/additives used in their manufacture
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • In the range from planned shutdown to emergency response • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Use EITHER fusion cooking OR reaction to manufacture TWO batches of varnish/resin, including in-process testing, according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Processes may include:	<ul style="list-style-type: none"> • Fusion cooking or reaction.
Materials may include:	<ul style="list-style-type: none"> • Range of raw materials/consumables, pigment, varnish, inks, chemicals used in cleaning.
Enterprise procedures may include:	<ul style="list-style-type: none"> • Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
OHS may include:	<ul style="list-style-type: none"> • Includes relevant legislation, regulations and enterprise policies/guidelines.
Machines/equipment may include:	<ul style="list-style-type: none"> • Machines/equipment may include gel tanks, reactors, tanks, refrigeration units, air compressor, pan washer/scrubbers, pumps, valves, other vessels.
Shutdown may include:	<ul style="list-style-type: none"> • In the range from planned shutdown to emergency response.
Application may include:	<ul style="list-style-type: none"> • Varnish/resin manufacture and associated tasks are typically performed by operators working under limited supervision to ensure production requirements are met.
Documentation may include:	<ul style="list-style-type: none"> • Range of work instructions including formulae, job dockets, work sheets, specifications, labels, material safety data sheets.
Adjustments/corrections may include:	<ul style="list-style-type: none"> • In the range from normal operating to emergency response.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		

ICPKN311C Apply knowledge of the graphic pre-press sector

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the graphic pre-press sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific pre-press areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit covers preparation of a person working in or dealing with the graphic pre-press sector of the printing industry. Workers with the ICP30205 Certificate III in Printing and Graphic Arts (Graphic Pre-press) are likely to acquire most of this knowledge in the production units.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply detailed knowledge of pre-press processes	3.1. The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and applied where possible in the workplace 3.2. Different types of images (line, half-tone), digital and their use are assessed to identify most appropriate image for the given job 3.3. Different output settings eg screen rulings and angles, shapes, are researched and how they affect final product is evaluated 3.4. The different types of output required for different printing processes are researched and evaluated for different jobs 3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs, are researched and evaluated for different jobs
4. Apply knowledge of printing processes	4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are appraised to inform decisions made for different jobs 4.2. The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs 4.3. The capabilities and limitations of each process are

ELEMENT	PERFORMANCE CRITERIA
	reviewed for different jobs
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening, are considered for different jobs</p> <p>5.2. The types of processes are appraised to inform decisions made for different jobs</p>
6. Apply knowledge of substrates and inks	<p>6.1. The range of substrates used for each printing process are researched and evaluated for different jobs</p> <p>6.2. The relationship of different paper sizes is considered for different jobs</p> <p>6.3. Different weights and callipers of substrates and how they affect pre-press operations are researched for different jobs</p> <p>6.4. Paper grain and how it affects pre-press, printing and finishing operations are researched for different jobs</p> <p>6.5. Different properties of ink such as drying properties, fastness, gloss, and how they affect pre-press operations are researched for different jobs</p>
7. Apply detailed knowledge of pre-press requirements for printing and finishing processes	<p>7.1. Designs that are appropriate for different printing processes are explored according to different jobs</p> <p>7.2. Dot gain and trapping requirements for different printing processes, inks and substrates are evaluated for different jobs</p> <p>7.3. Use and positioning of trimming and folding marks and how these are affected by different substrates are evaluated for different jobs</p> <p>7.4. Criteria for evaluating suitability of pre-press outputs for printing processes are explored and implemented</p> <p>7.5. Criteria for producing folding impositions are evaluated for different jobs</p>
8. Apply knowledge of colour theory	<p>8.1. Colour theory of additive colours (light), RGB, is used to inform pre-press and/or design decisions</p> <p>8.2. Colour theory of subtractive colours (pigments), CMYK, is used to inform pre-press and/or design decisions</p> <p>8.3. Relationship between ranges of visual colour RGB and CMYK is used to inform pre-press and/or design decisions</p> <p>8.4. Relationship between hue, greyness and substrate for tone and colour correction is used to inform pre-press</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>and/or design decisions</p> <p>8.5. Colour matching conditions and colour matching systems are used to inform pre-press and/or design decisions</p> <p>8.6. Procedures that ensure effective colour management are implemented</p>
<p>9. Apply basic knowledge of costs of production</p>	<p>9.1. The main cost elements (fixed, capital and variable) in pre-press production are considered during different jobs</p> <p>9.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are considered and implemented, where required, during different jobs</p> <p>9.3. Ways of minimising use of materials without affecting the quality of output are considered and implemented, where required, during different jobs</p> <p>9.4. Ways of maximising efficiency of capital and human resources are considered and implemented, where required, during different jobs</p>
<p>10. Apply basic knowledge of production management requirements and systems</p>	<p>10.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are identified and implementation strategies developed</p> <p>10.2. Systems (manual and computerised) that can be used to exchange information are considered and implemented, where required, during different jobs</p> <p>10.3. The basic principles of efficient production management are considered and implemented, where required, during different jobs</p> <p>10.4. The principles of effective quality management are considered and implemented, where required, during different jobs</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and/or design decisions
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by considering the information required to accurately cost jobs
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by researching and evaluating different output devices eg film setters, plate setters, analogue proofs and digital proofs, for different jobs

Required knowledge

- unit underpins the Certificate III level and higher pre-press units.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of pre-press and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful demonstration of groups of pre-press units at Certificate III level or higher⁴ • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example units packaged in a Certificate III or higher qualification.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN312C Apply knowledge of printing machining

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the printing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific printing areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit describes the skills and knowledge required by a person working in or dealing with the printing sector of the printing industry. Workers with the ICP30505 Certificate III in Printing and Graphic Arts (Printing) are likely to acquire most of this knowledge in production units.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply detailed knowledge of pre-press processes	3.1. The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and applied where possible in the workplace 3.2. Different types of images (line, half-tone), digital and their use are understood and general strategies developed for printing 3.3. Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood and general strategies developed for printing 3.4. The different types of output required for different printing processes are understood and general processes developed for printing 3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs, are understood and general processes developed for printing
4. Apply knowledge of printing processes	4.1. Principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are applied when using a selected printing process 4.2. The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs 4.3. The capabilities and limitations of each process are

ELEMENT	PERFORMANCE CRITERIA
	considered when using a selected printing process
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are taken into consideration when making print process decisions</p> <p>5.2. The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs</p>
6. Apply knowledge of substrates and inks	<p>6.1. The range of substrates used for each printing process are taken into consideration when making print set up decisions</p> <p>6.2. The relationship of different paper sizes is taken into consideration when making print set up decisions</p> <p>6.3. Different weights and callipers of substrates and how they affect printing operations are taken into consideration when making print set up decisions</p> <p>6.4. Paper grain and how it affects pre-press, printing and finishing operations are taken into consideration when making print set up decisions</p> <p>6.5. Different properties of ink such as drying properties, fastness, gloss, and how they affect printing and finishing operations are taken into consideration when making print set up decisions</p> <p>6.6. Inks and coatings that are appropriate and those that are not appropriate for particular finishing processes are taken into consideration when making print set up decisions</p>
7. Apply detailed knowledge of printing requirements for pre-press and finishing processes	<p>7.1. Designs that are appropriate for different printing processes are understood and general strategies developed for printing</p> <p>7.2. Criteria for evaluating suitability of pre-press outputs for printing processes are understood and general strategies developed for printing</p> <p>7.3. Mechanisms and techniques for adjusting image registration and position are understood and general strategies developed for printing</p> <p>7.4. Procedures for determining colour sequence are understood and general strategies developed for printing</p> <p>7.5. Adjustments that can be made so that product matches approved proof are understood and general</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>strategies developed for printing</p> <p>7.6. Criteria for determining impositions and image placements for converting, binding and finishing operations are understood and general strategies developed for printing</p>
<p>8. Apply knowledge of colour theory</p>	<p>8.1. Colour theory of additive colours (light), RGB, is understood and used to inform printing decisions</p> <p>8.2. Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform printing decisions</p> <p>8.3. Relationship between ranges of visual colour RGB and CMYK is understood and used to inform printing decisions</p> <p>8.4. Relationship between hue, greyness and substrate for tone and colour correction is understood and used to inform printing decisions</p> <p>8.5. Colour matching conditions and colour matching systems are understood and used to inform printing decisions</p>
<p>9. Apply basic knowledge of costs of production</p>	<p>9.1. The main cost elements (fixed, capital and variable) in printing production are understood and used to inform printing decisions</p> <p>9.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are applied to work practices</p> <p>9.3. Ways of minimising use of materials without affecting the quality of output is understood and used to inform printing processes</p> <p>9.4. Ways of maximising efficiency of capital and human resources are understood and used to inform printing processes</p>
<p>10. Apply basic knowledge of production management requirements and systems</p>	<p>10.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform personal work practices</p> <p>10.2. Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace</p> <p>10.3. The basic principles of efficient production management are understood and used to inform personal work practices</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and/or design decisions
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by considering the information required to accurately cost jobs
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by researching and evaluating different output devices eg film setters, plate setters, analogue proofs and digital proofs, for different jobs

Required knowledge

- unit underpins all of the Certificate III level and higher printing units of competency.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of printing and related production processes (as outlined in each Element) have been demonstrated so that job requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful assessment of any of the Certificate III level printing units of competency • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example units packaged in a Certificate III or higher qualification.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN313C Apply knowledge and requirements of the converting, binding and finishing sector

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the converting and finishing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific converting and finishing areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit covers preparation of a person working in or dealing with the converting and finishing area of the printing industry. Workers with the ICP30705 Certificate III in Printing and Graphic Arts (Print Finishing) are likely to acquire most of this knowledge in the technical units.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Apply knowledge of printing industry</p>	<p>1.1. Printing industry terminology and vocabulary are used correctly and accurately</p> <p>1.2. New technology and new work processes are monitored and implemented when required</p> <p>1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices</p>
<p>2. Apply knowledge of government acts and regulations</p>	<p>2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace</p> <p>2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices</p>
<p>3. Apply detailed knowledge of pre-press processes</p>	<p>3.1. The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable</p> <p>3.2. Different types of images (line, half-tone), digital and their use are understood and used as required</p> <p>3.3. Different output settings eg screen rulings and angles, shapes, and describe how they affect final printed product are understood and used as required</p> <p>3.4. The different types of output required for different media and printing processes are understood and used in the production process where applicable</p> <p>3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood and built into the production process where applicable</p>
<p>4. Apply knowledge of printing processes</p>	<p>4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are understood and are used to inform production processes</p> <p>4.2. The types of jobs and products for which each process is appropriate are understood and are used to inform production decisions</p> <p>4.3. The capabilities and limitations of each process are understood and are used to inform production</p>

ELEMENT	PERFORMANCE CRITERIA
	decisions
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and are used to inform production processes</p> <p>5.2. The types of jobs and products for which each process is appropriate are understood and are used to inform production processes</p>
6. Apply detailed knowledge of substrates	<p>6.1. The relationship of different substrate sizes is understood and is used to inform production processes</p> <p>6.2. Different weights, callipers, bulk, density and opacity of substrates and how they affect pre-press, printing and finishing operations and end uses are understood and are used to inform production processes</p> <p>6.3. Paper grain and how it affects pre-press, printing and finishing operations are understood and are used to inform production processes</p> <p>6.4. Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and are used to inform production processes</p> <p>6.5. Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and are used to inform production processes</p> <p>6.6. Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and are used to inform production processes</p> <p>6.7. Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and are used to inform production processes</p>
7. Apply knowledge of converting and finishing requirements for pre-press and printing processes	<p>7.1. Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and are used to inform production processes</p> <p>7.2. Quality checking procedures and problems that should be reported to printer or pre-press and those that are the responsibility of converter or finisher are</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>understood and are used to inform production processes</p> <p>7.3. Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and are used to inform production processes</p> <p>7.4. Criteria for producing folding impositions are understood and are used to inform production processes</p> <p>7.5. Procedures for determining appropriate packing techniques are understood and are used to inform production processes</p>
<p>8. Apply basic knowledge of costs of production</p>	<p>8.1. The main cost elements (fixed, capital and variable) in printing production are understood and used to inform converting and finishing decisions</p> <p>8.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are applied to work practices</p> <p>8.3. Ways of minimising use of materials without affecting the quality of output are understood and used to inform converting and finishing processes</p> <p>8.4. Ways of maximising efficiency of capital and human resources are understood and used to inform converting and finishing processes</p>
<p>9. Apply basic knowledge of production management requirements and systems</p>	<p>9.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform personal work practices</p> <p>9.2. Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace</p> <p>9.3. The basic principles of efficient production management are understood and used to inform personal work practices</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and/or design decisions
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by considering the information required to accurately cost jobs
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by applying the principles of the selected printing processes

Required knowledge

- unit underpins all of the Certificate III level and higher converting, binding and finishing units of competency.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of converting and finishing and related production processes (as outlined in each Element) have been demonstrated so that job requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful assessment of any of the Certificate III level converting, binding and finishing units of competency • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example units packaged in a Certificate III or higher qualification.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Level of knowledge</i> may include:</p>	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN314C Apply knowledge and requirements of the screen printing sector

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the screen printing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific screen printing operations. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	<p>This unit covers preparation of a person working in or dealing with the screen printing sector of the printing industry and underpins all screen printing units packaged in the ICP30605 Certificate III in Printing and Graphic Arts (Screen Printing).</p> <p>Workers with the ICP30605 Certificate III in Printing and Graphic Arts (Screen Printing) are likely to acquire most of this knowledge in production units.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1. The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable 3.2. Different types of images (line, half-tone) and their use are understood and general methods developed for printing 3.3. Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood and general methods developed for printing 3.4. The different types of output required for different printing processes are understood and general methods developed for printing 3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood and general processes developed for printing
4. Apply knowledge of printing processes	4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are understood 4.2. The types of jobs and products for which each process is appropriate are understood 4.3. The capabilities and limitations of each process are understood and general strategies developed to

ELEMENT	PERFORMANCE CRITERIA
	address client need
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and are used to inform printing decisions</p> <p>5.2. The types of jobs and products for which each process is appropriate are understood and are used to inform printing decisions</p>
6. Apply detailed knowledge of substrates and inks	<p>6.1. The range of substrates used for each printing process is understood and used to inform printing decisions</p> <p>6.2. The relationship of different paper sizes is understood and used to inform printing decisions</p> <p>6.3. Different weights and callipers of substrates and how they affect screen printing operations are understood and used to inform printing decisions</p> <p>6.4. Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform printing decisions</p> <p>6.5. The differences in printing on different substrates eg paper, plastic, glass are understood and used to inform printing decisions</p> <p>6.6. Different properties of ink: drying properties, fastness, gloss etc and how they affect screen printing operations are understood and used to inform printing decisions</p> <p>6.7. Inks and coatings that are appropriate and those that are not appropriate for particular finishing processes are understood and used to inform printing decisions</p>
7. Apply detailed knowledge of screen printing and stencil preparation techniques and requirements	<p>7.1. Designs that are appropriate for screen printing on particular substrates are understood and used to inform printing decisions</p> <p>7.2. Criteria for selecting mesh count and stencil type are understood and used to inform printing decisions</p> <p>7.3. Dot gain, trapping and minimising moire requirements for different meshes, stencils, inks and substrates are understood and used to inform printing decisions</p> <p>7.4. Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and used to inform printing decisions</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>7.5. Mechanisms and techniques for adjusting image registration and position are understood and used to inform printing decisions</p> <p>7.6. Procedure for determining colour sequence is understood and used to inform printing decisions</p> <p>7.7. Adjustments that can be made so that product matches approved proof are understood and used to inform printing decisions</p>
8. Apply knowledge of colour theory	<p>8.1. Colour theory of additive colours (light), RGB, is understood and used to inform printing decisions</p> <p>8.2. Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform printing decisions</p> <p>8.3. Relationship between ranges of visual colour RGB and CMYK is understood and used to inform printing decisions</p> <p>8.4. Relationship between hue, greyness and substrate for tone and colour correction is understood and used to inform printing decisions</p> <p>8.5. Colour matching conditions and colour matching systems are understood and used to inform printing decisions</p> <p>8.6. Procedures that ensure effective colour management are understood and used to inform printing decisions</p>
9. Apply basic knowledge of costs of production	<p>9.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform personal work practices</p> <p>9.2. Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace</p> <p>9.3. The basic principles of efficient production management are understood and used to inform personal work practices</p>
10. Apply basic knowledge of production management requirements and systems	<p>10.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform production decisions</p> <p>10.2. Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace</p> <p>10.3. The basic principles of efficient production</p>

ELEMENT	PERFORMANCE CRITERIA
	management are understood and applied in the workplace

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and/or design decisions
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by understanding the different weights and callipers of substrates and how they affect screen printing operations
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by applying the principles of the selected printing screen printing processes

Required knowledge

- this unit of competency underpins all Certificate III level screen printing units

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of screen printing and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful assessment of Certificate III level screen printing units • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN315C Apply knowledge and requirements of the multimedia sector

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the multimedia sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific multimedia areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	<p>This unit covers preparation of a person working in or dealing with the multimedia sector of the printing industry and underpins all multimedia units packaged in the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia).</p> <p>Workers with the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia) are likely to acquire most of this knowledge in the technical units.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of multimedia and the printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices 1.4. International standards and open source standards are monitored for new developments and understood and applied where appropriate
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1. The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable 3.2. Different types of images (line, half-tone), digital and their use are understood and used as required 3.3. Different output settings eg screen rulings and angles, shapes, and how they affect final printed product are understood and used as required 3.4. The different types of output required for different media and printing processes are understood and used in the production process where applicable 3.5. Different output devices eg film setters, plate, analogue proofs, digital proofs are understood and used in the production process where applicable
4. Apply detailed knowledge of multimedia techniques and requirements	4.1. Designs that are appropriate or inappropriate for multimedia are understood and applied to the development process, where applicable 4.2. Criteria for choosing visual, audio or text delivery for presenting information in both passive and interactive products are understood and applied to the development process, where applicable

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. The differences between various markup languages and their application are understood and applied to a range of suitable development work</p> <p>4.4. The differences between various scripting languages and their application are understood and applied to a range of suitable development work</p> <p>4.5. The criteria for selecting graphic resolution and formats and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.6. Criteria for selecting audio formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.7. The criteria for selecting video formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.8. The criteria for selecting animation formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.9. Multimedia platforms and computer systems requirements for different multimedia products are understood and applied to the development process, where applicable</p> <p>4.10. Different software and operating systems for producing multimedia products are evaluated for different jobs</p> <p>4.11. The features of an effective navigation system for both passive and interactive products are understood and applied to the development process, where applicable</p> <p>4.12. The effect of rapidly changing technology and how multimedia production needs to respond to it are understood</p>
5. Apply knowledge of colour theory	<p>5.1. Colour theory of additive colours (light), RGB, is understood and used to inform design decisions</p> <p>5.2. Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform design decisions</p> <p>5.3. The relationship between ranges of visual colour RGB and CMYK is understood and used to inform</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>design decisions</p> <p>5.4. The relationship between hue and greyness for tone and colour correction is understood and used to inform design decisions</p>
<p>6. Apply basic knowledge of costs of production</p>	<p>6.1. The main cost elements (fixed, capital and variable) in multimedia production are understood and used to inform development decisions</p> <p>6.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and used to inform development decisions</p> <p>6.3. Ways of minimising use of materials without affecting the quality of output are understood and used to inform development decisions</p> <p>6.4. Ways of maximising efficiency of capital and human resources are understood and used to inform development decisions</p>
<p>7. Demonstrate basic knowledge of production management requirements and systems</p>	<p>7.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform development decisions</p> <p>7.2. Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace</p> <p>7.3. The basic principles of efficient production management is understood and used to inform development decisions</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by monitoring trends within the multimedia sector on an ongoing basis to inform personal work practices
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by understanding and using as required different output settings eg screen rulings and angles, shapes
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by understanding and applying to the development process, where applicable, multimedia platforms and computer systems requirements for different multimedia products

Required knowledge

- unit underpins all Certificate III level multimedia units of competency

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of multimedia and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, programmer, technician, production manager or client • successful assessment of Certificate III level multimedia units of competency • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN316C Apply knowledge and requirements of paper and printing processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the paper merchant area of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific paper related operations. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit covers preparation of a person working in or dealing with the paper merchant area of the printing industry. This unit underpins all Certificate III level units of competency related to the paper merchant area.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1. The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable 3.2. Different types of images (line, half-tone) and their use are understood 3.3. Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood 3.4. The different types of output required for different printing processes are understood 3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood
4. Apply knowledge of printing processes	4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are understood and are used to inform production processes 4.2. The types of jobs and products for which each process is appropriate are understood and used to inform production decisions 4.3. The capabilities and limitations of each process are understood and used to inform production decisions
5. Apply knowledge of	5.1. Basic characteristics of the following converting and

ELEMENT	PERFORMANCE CRITERIA
converting and finishing processes	<p>finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and used to inform production processes</p> <p>5.2.The types of jobs and products for which each process is appropriate are understood and used to inform production processes</p>
6. Apply detailed knowledge of paper and printing processes	<p>6.1.The relationship of different paper sizes is understood and used to inform production processes</p> <p>6.2.Different weights, callipers, bulk, density and opacity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes</p> <p>6.3.Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.4.Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.5.Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.6.Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes</p> <p>6.7.Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and used to inform production processes</p>
7. Apply detailed knowledge of paper grades and colours	<p>7.1.Paper types and grades and end uses for each type and grade are understood and used to inform production processes</p> <p>7.2.The differences between wood pulp, rag and recycled papers and appropriate end uses are understood and used to inform production processes</p> <p>7.3.Colour matching processes are understood and used to inform production processes</p> <p>7.4.The effect of different paper colours on printing operations is understood and used to inform production processes</p>
8. Apply detailed	8.1.Ideal storage conditions for different types and

ELEMENT	PERFORMANCE CRITERIA
knowledge of paper handling and storage procedures	<p>grades of paper are understood and used to inform production procedures</p> <p>8.2. The advantages and disadvantages of different packing and delivery systems are understood and used to inform production procedures</p>
9. Apply basic knowledge of costs of production	<p>9.1. The main cost elements (fixed, capital and variable) in production are understood and applied in the workplace</p> <p>9.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace</p> <p>9.3. Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace</p> <p>9.4. Ways of maximising efficiency of capital and human resources are understood and applied in the workplace</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by understanding and applying the information required to accurately cost jobs
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by understanding and using the basic principles of the selected printing process

Required knowledge

- unit underpins all Certificate III level units of competency related to the paper merchant area

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of paper and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful assessment of Certificate III level units of competency related to the paper merchants area • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN317C Apply knowledge and requirements of the ink manufacturing sector

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in the ink manufacturing sector of the printing industry. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	<p>This unit covers preparation of a person working in the ink manufacturing sector of the printing industry including senior production staff, chemists, laboratory technicians, quality testing and other research and development personnel.</p> <p>This unit underpins all ink manufacture units of competency packaged in the ICP31105 Certificate III in Printing and Graphic Arts (Ink Manufacture).</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Identify categories of the ink manufacturing sector and enterprise products and services	3.1. The scope of the ink manufacturing sector, its products, services and client/supplier profile can be identified 3.2. Enterprise products and services, their characteristics and their end use, specifically with regard to the printing industry, are identified 3.3. Printing processes and procedures and their implication for ink manufacture are understood and used to inform decisions about ink usage
4. Identify enterprise processes and procedures	4.1. Manufacturing processes and quality control procedures for ink/coating/varnish/resin/chemical production are understood and used to inform decisions about ink usage 4.2. Raw material, intermediate and final product testing and recording procedures within the enterprise are identified and applied in personal work practices 4.3. Product research and development capacity and opportunities are identified and explored for professional development and enterprise purposes
5. Apply knowledge of testing procedures	5.1. Appropriate testing procedures for each stage of product manufacture are described, evaluated, and improvements are applied where required 5.2. Workplace quality assurance procedures are understood and applied in the workplace 5.3. Procedures for developing and testing formulae for new product with reference to end use and capability

ELEMENT	PERFORMANCE CRITERIA
	and suitability of manufacturing processes are described and applied in the workplace

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- planning and organising activities by identifying and applying raw material, intermediate and final product testing procedures in the workplace
- teamwork when understanding and applying workplace quality assurance procedures in the workplace in association with others
- mathematical ideas and techniques by identifying and applying raw material, intermediate and final product recording procedures in the workplace
- problem-solving skills by describing and evaluating appropriate testing procedures for each stage of product manufacture and applying improvements
- use of technology by monitoring and implementing new technology and new work processes

Required knowledge

- unit underpins all Certificate III level units of competency in ink manufacture

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of ink manufacturing production and testing processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, technician, production manager or client • successful assessment of Certificate III level units of competency in ink manufacture • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN318C Apply knowledge and requirements of mail house operations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to working in or deal with a mail house; that is, a working knowledge of related areas and a detailed knowledge of specific mailing, labelling and dispatching areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	<p>This unit covers preparation of a person working in or dealing with a mail house and underpins all mail house units of competency packaged in the ICP31005 Certificate III in Printing and Graphic Arts (Mail House).</p> <p>Workers with the ICP31005 Certificate III in Printing and Graphic Arts (Mail House) are likely to acquire most of this knowledge in production units.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices 1.4. Job requirements and alterations are discussed with and understood by tradespersons, supervisors, production managers and clients
2. Apply knowledge of government acts, regulations and codes of practice	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices 2.3. Codes of practice and responsibilities regarding both paper and electronic-based products and services and direct marketing are understood and applied in personal work practices 2.4. Legislative requirements regarding the storage of data, addressing, ownership of lists, intellectual copyright, privacy and confidentiality of information are understood and applied in personal work practices 2.5. Mail house responsibilities in regard to the public, clients, suppliers and employees are understood and applied in personal work practices
3. Apply knowledge of postal standards and requirements	3.1. Limitations on size, weight and content of postal items are understood and applied in processing mail and/or parcels 3.2. Australia Post Post Standards and Letter Pre-Sorting Standards are understood and used to inform workflow processes 3.3. Packaging requirements for a range of products are understood and applied
4. Identify enterprise processes and procedures	4.1. The importance of digital printing systems including inkjet, laser and offset technologies in the mail house centre are understood 4.2. Digital data customisation is understood and is used

ELEMENT	PERFORMANCE CRITERIA
	<p>to inform quality checks</p> <p>4.3. Advantages and applications of digital printing within a mail house are understood</p> <p>4.4. In-line processes associated with digital printing systems are understood and used to inform work processes</p> <p>4.5. The process and applications of bar coding as applied to mail house operations and services are understood</p>
<p>5. Apply knowledge of computerised systems and associated software as used in mail house sector</p>	<p>5.1. A variety of computer driven equipment as used in typical mail house operations is understood and used where appropriate</p> <p>5.2. Computer driven bar code, sorting, tagging and reading systems are understood and applied in the workplace where appropriate</p> <p>5.3. Data management and processing systems and software are understood</p> <p>5.4. Computerised document management, design and reading systems and software are understood</p> <p>5.5. Computerised market research and listing services and associated software are understood</p> <p>5.6. Recent developments in electronic mailing and new applications of this technology are understood</p>
<p>6. Apply a knowledge of pre-press, printing, converting and finishing sectors and processes</p>	<p>6.1. The principles and functions of image production (typesetting, scanning, camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used to inform production processes where appropriate</p> <p>6.2. Pre-press functions including image classification (type, line, tone), output settings (screen rulings and angles) and output devices (film setter, plate maker, proofer) are understood and used to inform production processes where appropriate</p> <p>6.3. Conventional printing processes are understood and used to inform production processes where appropriate</p> <p>6.4. The most suitable printing process for a variety of jobs and products, taking into account cost, quality and end user requirements is understood and used to inform decisions about printing processes where appropriate</p> <p>6.5. Capabilities and limitations of each printing process</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>are understood and used to inform decisions about printing processes where appropriate</p> <p>6.6. Basic principles and characteristics of a variety of converting and finishing operations including guillotining, collating, folding, inserting and fastening are understood and used to inform production processes where appropriate</p> <p>6.7. Terminology suited to those working in mail house, printing and related industries is understood and applied in the workplace</p>
7. Apply knowledge of substrates, inks, toners and coatings	<p>7.1. Substrates used for each printing process and the properties that make them suitable are understood and used to inform production processes where appropriate</p> <p>7.2. The IPS system, its basis and the relationship of different paper sizes are understood and used to inform production processes where appropriate</p> <p>7.3. Different weights, callipers and finishes of substrates and how they affect mailing and converting and finishing operations are understood and used to inform production processes where appropriate</p> <p>7.4. Paper grain and how it affects pre-press, printing, finishing and mailing operations are understood and used to inform production processes where appropriate</p> <p>7.5. Ink characteristics including drying properties, fastness, gloss, opacity, tack and scuff resistance, and their effect on printing, finishing and end user requirements are understood and used to inform production processes where appropriate</p> <p>7.6. Desirable qualities for inks, toners and coatings to ensure suitability for substrate, finishing operations and end user requirements are understood and used to inform production processes where appropriate</p>
8. Apply knowledge of costs of production	<p>8.1. The main cost elements (fixed, capital and variable) in converting and finishing production are understood and applied in the workplace</p> <p>8.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace</p> <p>8.3. Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace</p>

ELEMENT	PERFORMANCE CRITERIA
	8.4. Ways of maximising efficiency of capital and human resources are understood and applied in the workplace
9. Apply knowledge of production management requirements and systems	<p>9.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and applied in the workplace</p> <p>9.2. Systems (manual and computerised) that can be used to exchange information are understood and applied in the workplace</p> <p>9.3. The basic principles of efficient production management are understood and applied in the workplace</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using mail house, postal and printing industry terminology and vocabulary
- collecting, analysing and organising information by understanding and applying computer driven bar code, sorting, tagging and reading systems in the workplace
- planning and organising activities by understanding and applying ways of minimising material use in the workplace without affecting the quality of output
- teamwork when understanding and applying the basic principles of efficient production management in the workplace in association with others
- mathematical ideas and techniques by understanding and applying the information required to accurately cost jobs
- problem-solving skills by adopting the most suitable printing process taking account of cost, quality and client needs
- use of technology by understanding and using pre-press functions to inform production processes

Required knowledge

- unit underpins all Certificate III level mail house units of competency

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of mail house operations and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson or other skilled worker, production manager or client • successful assessment of Certificate III level mail house units of competency • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN319C Apply knowledge and processes of converting paper-based products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the sacks and bags area or other similar paper converting areas of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific paper related operations. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit covers preparation of a person working in or dealing with the paper converting area of the printing industry, such as sack and bag making and cartons and underpins all units of competency related to the sacks and bags and cartons/corrugating sectors packaged in the ICP30805 Certificate III in Printing and Graphic Arts (Sacks and Bags) and the ICP30905 Certificate III in Printing and Graphic Arts (Cartons and Corrugating).
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1. The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable 3.2. Different types of images (line, half-tone) and their use are understood 3.3. The qualities of the main material types of paper, ink, adhesive, wax and plastic films and extrusion are understood and used to inform product development choices 3.4. Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood 3.5. The different types of output required for different printing processes are understood 3.6. Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood
4. Apply knowledge of printing processes	4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are understood and used to inform production processes 4.2. The types of jobs and products for which each process is appropriate are understood and used to inform production decisions

ELEMENT	PERFORMANCE CRITERIA
	4.3. The capabilities and limitations of each process are understood and used to inform production decisions
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and used to inform production processes</p> <p>5.2. The types of jobs and products for which each process is appropriate are understood and used to inform production processes</p>
6. Apply detailed knowledge of paper and printing processes	<p>6.1. The relationship of different paper sizes is understood and used to inform production processes</p> <p>6.2. Different weights, callipers, bulk, density and opacity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes</p> <p>6.3. Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.4. Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.5. Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and used to inform production processes</p> <p>6.6. Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes</p> <p>6.7. Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and used to inform production processes</p> <p>6.8. Paper behaviour and how it affects different production processes is understood and used to inform production decisions</p> <p>6.9. The effect of combining paper with adhesive, wax and plastic films on the production process is understood and used to inform production decisions</p>
7. Apply detailed knowledge of paper	7.1. Paper types and grades and end uses for each type and grade are understood and used to inform

ELEMENT	PERFORMANCE CRITERIA
grades and colours	<p>production processes The IPS system, its basis and the relationship of different paper sizes are understood and used to inform production processes where appropriate</p> <p>7.2. The differences between wood pulp, rag and recycled papers and appropriate end uses are understood and used to inform production processes</p> <p>7.3. Colour matching processes are understood and used to inform production processes</p> <p>7.4. The effect of different paper colours on printing operations is understood and used to inform production processes</p>
8. Apply detailed knowledge of paper handling and storage procedures	<p>8.1. Ideal storage conditions for different types and grades of paper are understood and used to inform production procedures</p> <p>8.2. The advantages and disadvantages of different packing and delivery systems are understood and used to inform production procedures</p>
9. Apply basic knowledge of costs of production	<p>9.1. The main cost elements (fixed, capital and variable) in production are understood and applied in the workplace</p> <p>9.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace</p> <p>9.3. Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace</p> <p>9.4. Ways of maximising efficiency of capital and human resources are understood and applied in the workplace</p>
10. Apply knowledge of production management requirements and systems	<p>10.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and applied in the workplace</p> <p>10.2. Systems (manual and computerised) that can be used to exchange information are understood and applied in the workplace</p> <p>10.3. The basic principles of efficient production management are understood and applied in the workplace</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using printing industry terminology and vocabulary
- collecting, analysing and organising information by monitoring trends within the printing industry on an ongoing basis to inform personal work practices
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when understanding and applying information systems in the workplace in association with others
- mathematical ideas and techniques by considering the information required to accurately cost jobs
- problem-solving skills by understanding and using the capabilities and limitations of each process when making production decisions
- use of technology by understanding and using basic principles of printing processes to meet client needs

Required knowledge

- unit underpins all Certificate III level units of competency related to the sacks and bags or cartons/corrugating sectors

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of paper and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful assessment of Certificate III level units of competency related to the sacks and bags or cartons/corrugating sectors for example • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Level of knowledge may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN320C Apply knowledge and requirements of information technology systems in the printing industry

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with information technology systems in the printing industry; that is, a working knowledge of related information technology and a detailed knowledge of specific information technology systems in the printing industry. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	<p>This unit covers preparation of a person working in or dealing with information technology systems in the printing industry and underpins all multimedia units of competency in the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia).</p> <p>Workers with the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia) or higher are likely to acquire most of this knowledge in the technical units.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Apply knowledge of information technology in the printing industry</p>	<p>1.1. Information technology terminology and vocabulary are used correctly and accurately</p> <p>1.2. New technology and new work processes are monitored and implemented when required</p> <p>1.3. Information technology trends within the printing industry are monitored on an ongoing basis to inform personal work practices</p> <p>1.4. International standards and open source standards are monitored for new developments and understood and applied where appropriate</p> <p>1.5. The issues involved in producing related print products with new technology are understood and reflected in work practice</p> <p>1.6. Issues such security, archiving, backup and storage are understood and used to inform work practice</p>
<p>2. Apply knowledge of government acts and regulations</p>	<p>2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace</p> <p>2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices</p>
<p>3. Apply knowledge of pre-press information technology systems</p>	<p>3.1. Basic principles and capabilities behind digital workflows and computer networks are understood and used to inform work practices</p> <p>3.2. Database and file management are understood and used as required</p> <p>3.3. Different output settings and how they affect final printed product are understood and used as required</p> <p>3.4. The different types of output required for different media and printing processes are understood and used in the production process where applicable</p> <p>3.5. Server and server administration are understood and used to inform work practices</p>
<p>4. Apply detailed knowledge of information technology in multimedia</p>	<p>4.1. Designs that are appropriate or inappropriate for multimedia are understood and applied to the development process, where applicable</p> <p>4.2. Criteria for choosing visual, audio or text delivery for presenting information in both passive and interactive products are understood and applied to</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>the development process, where applicable</p> <p>4.3. The differences between various markup languages and their application are understood and applied to a range of suitable development work</p> <p>4.4. The differences between various scripting languages and their application are understood and applied to a range of suitable development work</p> <p>4.5. The criteria for selecting graphic resolution and formats and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.6. Criteria for selecting audio formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.7. The criteria for selecting video formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.8. The criteria for selecting animation formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable</p> <p>4.9. Multimedia platforms and computer systems requirements for different multimedia products are understood and applied to the development process, where applicable</p> <p>4.10. Different software and operating systems for producing multimedia products are evaluated for different jobs</p> <p>4.11. The features of an effective navigation system for both passive and interactive products are understood and applied to the development process, where applicable</p> <p>4.12. The effect of rapidly changing technology and how multimedia production needs to respond to it are understood</p>
<p>5. Apply knowledge of printing information technology systems</p>	<p>5.1. The types of information technology systems used in the printing sector are understood and used to inform personal work practice</p> <p>5.2. Database and file management are understood and used as required</p> <p>5.3. Automated workflow systems are understood and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>used to inform work practice</p> <p>5.4. Different output systems and technology are understood and used to inform work practice</p>
<p>6. Apply knowledge of converting and finishing information technology systems</p>	<p>6.1. The types of information technology systems used in the converting and finishing sector are understood and used to inform personal work practice</p> <p>6.2. Automated workflow systems are understood and used to inform work practice</p> <p>6.3. Different dispatch and distribution systems are understood and used to inform work practice</p>
<p>7. Demonstrate knowledge of production management systems</p>	<p>7.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform development decisions</p> <p>7.2. Information technology systems that can be used to exchange information between companies and within companies are understood and used</p> <p>7.3. The basic principles of efficient production management information systems are understood and inform development decisions</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly and accurately using information technology terminology and vocabulary
- collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- planning and organising activities by understanding and using basic principles and capabilities behind digital workflows and computer networks in work practices
- teamwork when understanding and using issues such as security, archiving, backup and storage in work practices
- mathematical ideas and techniques by understanding and applying the criteria for selecting graphic resolution to the development process
- problem-solving skills by evaluating software and operating systems when producing multimedia for different jobs
- use of technology by understanding and applying to the development process, where applicable, multimedia platforms and computer systems requirements for different multimedia products

Required knowledge

- unit underpins all technical Certificate III level units of competency

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none">• assessor must be satisfied that sufficient knowledge and understanding of information technology systems and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, programmer, technician, production manager or client• demonstrated competency in Certificate III level Information Technology units of competency• evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none">• assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none">• direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Level of knowledge</i> may include:	<ul style="list-style-type: none"> knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		

ICPKN321A Apply knowledge and requirements of digital production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to work in or deal with information technology systems in the digital printing industry. It facilitates technical communication and the ability to work as a team member.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>Individuals working in the digital printing industry who are responsible for assisting and dealing with digital production workflow, such as job creation, printing and finishing typically apply the skills and knowledge outlined in this unit.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of Government Acts and regulations	2.1. Basic principles and obligations for copyright, occupational health and safety (OHS), environmental protection, access and equity and industrial awards are researched and evaluated 2.2. Basic principles and obligations for copyright, OHS, environmental protection, access and equity and industrial awards are followed and applied in the workplace
3. Apply knowledge of digital production processes	3.1. The principles behind basic layout production, image manipulation, digital output and workflow are identified and applied where possible in the workplace 3.2. Proofing processes and principles are applied to meet client needs 3.3. Raster image processor (RIP) and front-end processor functions are applied to meet job specifications 3.4. The effective use of software applications for producing digital products is evaluated
4. Apply knowledge of digital printing processes	4.1. Basic principles of toner, inkjet or liquid toner-based, are evaluated to inform decisions made for different jobs 4.2. The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs 4.3. The capabilities and limitations of each process are reviewed for different jobs
5. Apply knowledge of substrates and consumables	5.1. The range of <i>substrates</i> used for each printing process are researched and evaluated for different jobs 5.2. Different weights and callipers of substrates and how they affect digital production operations are researched and evaluated for different jobs

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Paper grain and how it affects digital production and finishing operations are researched for different jobs</p> <p>5.4. Different properties of digital consumables, and how they effect digital production operations are researched for different jobs</p>
6. Apply knowledge of colour theory	<p>6.1. Colour theory is used to inform digital production and/or design decisions</p> <p>6.2. Colour matching systems are used to inform digital production and/or design decisions</p> <p>6.3. Procedures that ensure effective colour management are implemented</p>
7. Apply knowledge of converting and finishing processes	<p>7.1. Basic characteristics of converting and finishing processes are identified and considered for different jobs</p> <p>7.2. The types of processes are evaluated and used to inform decisions made for different jobs</p>
8. Demonstrate knowledge of production management systems	<p>8.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are identified and used to inform development decisions</p> <p>8.2. Information technology systems that can be used to exchange information between and within companies are identified and used</p> <p>8.3. Efficient production management information systems are established and applied to inform development decisions</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS skills for using correct ergonomics when operating the computer
- communication skills for transferring ideas and information by accurately using correct printing industry terminology and vocabulary
- analysing and organising skills used when applying basic principles of efficient production management
- teamwork skills for maintaining the production process in association with others
- numeracy skills for determining weights and callipers of substrates
- problem-solving skills for checking and adjusting procedures
- technical skills for using relevant hardware and software to produce a layout

Required knowledge

- colour theory
- converting and finishing processes
- digital production processes
- Government Acts and regulations
- production management systems
- substrates and consumables

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • demonstrate knowledge of digital production and related production processes so that job procedures, requirements and modifications have been implemented to job specifications • establish and apply efficient production management information systems and accurately explain these systems to the production manager or client.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for digital printing • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence • third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate when applying production management information systems.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrates</i> may include:	<ul style="list-style-type: none"> • print media and paper: <ul style="list-style-type: none"> • coated • uncoated • card • canvas • vinyl and plastic.
<i>Colour theory</i> may include:	<ul style="list-style-type: none"> • additive and subtractive • colour modes, such as: <ul style="list-style-type: none"> • red, green, blue (RGB) • cyan, magenta, yellow, black (CMYK) • LAB • colour rules, such as: <ul style="list-style-type: none"> • analogous • complementary • triad.
<i>Converting and finishing</i> may include:	<ul style="list-style-type: none"> • guillotining • flat-bed and rotary cutting • collating • folding • adhesives • mechanical and thermal fastening.
<i>Information technology systems</i> may include:	<ul style="list-style-type: none"> • computer networks • databases • internet.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Knowledge
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ICPMM263C Access and use the Internet

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to access and use the Internet within the printing and graphic arts industries.
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Application of the Unit

Application of the unit	This unit describes the skills needed to access and use the Internet within the printing and graphic arts industry.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	This unit may be assessed with a range of other units relating to design and production of a multimedia product.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and use local resources	1.1. Installed Internet <i>software applications</i> and their purposes are identified 1.2. Internet software applications are used online and offline 1.3. Extracting (decompressing) software and virus scanners are used on downloaded files 1.4. Identify Internet connection and protocols 1.5. Applications and files are downloaded and installed correctly 1.6. Potential security risks are identified and avoided
2. Identify and use remote resources	2.1. Websites are navigated to locate required information 2.2. Files and documents are accessed using the Internet (world wide web) search engines 2.3. The Internet is browsed to find related sites via links 2.4. Files are retrieved from an FTP repository 2.5. Emails are sent, downloaded, read, responded and saved to 2.6. Files attached to incoming email are retrieved and attached files are sent 2.7. Newsgroups relevant to the industry are accessed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- collecting, analysing and organising information by navigating websites to locate required information
- planning and organising activities by navigating websites to locate required information
- problem-solving skills by extracting files and virus scanning
- use of technology by accessing and using the Internet

Required knowledge

- how to initiate and conclude an Internet connection
- when a connection attempt fails, what could be the cause and what to do
- appropriate uses of different Internet protocols and data types (WWW, email, etc)
- WWW search engines
- what a URL is
- using email to respond to a newsgroup post
- what shareware is
- maintaining (upper/lower) case : URLs, file names, passwords
- ".zip" are files and why are they used
- difference between Java and JavaScript
- ways to you use the Internet to obtain product information and technical support
- time it takes to download one megabyte of data using a fast modem
- privacy and security measures related to on line tasks
- information you would refuse to provide when filling out a form on a web page
- what cookies are
- types of files that can carry viruses
- scanning for viruses before and after extracting the files from a compressed archive
- copyright ownership on the types of data you retrieve
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Access the Internet and retrieve data using WWW and email and newsgroups • Send emails or newsgroup posting with correctly formatted attachments • Perform a search and save the text of a web page to disk • Extract and virus-scan downloaded files • Demonstrate an ability to find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFMEM12A Update web pages.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Software applications may include:

- a wide range of programs, some current examples of which may be Eudora, Netscape.

Relevant terminology used may include:

- ISDN, PPP, TCP/IP, URL, Java, JavaScript, HTML, Download, WWW, cookies, zip files and others.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units	

ICPMM296C Create and test a CD-ROM/DVD

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to create an interactive CD-ROM/ DVD which starts automatically and has no errors in any of the interactive functions.
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Application of the Unit

Application of the unit	This unit requires a person to create and test a CD-ROM/ DVD with a prescribed range of functions involving known routines and procedures with some accountability for the quality of outcomes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm data requirements	1.1. All details required for the job are checked and confirmed against the <i>job specifications</i> 1.2. Media content is tested to ensure all <i>interactivity</i> performs according to job specifications 1.3. Media is compressed correctly with images at the right resolution and any text in the correct format 1.4. Media is compressed correctly with images at the right resolution and any text in the correct format
2. Prepare the CD-ROM/DVD structure	2.1. Target audience is identified from job specifications and a welcome page is developed 2.2. The welcome page identifies the navigational structure of the media 2.3. Folders for containing the media are prepared according to interactivity requirements 2.4. DOS-style eight-dot-three-character file names are used for all files
3. Set up auto functions	3.1. Autorun is set up to automatically start up the CD-ROM/DVD media 3.2. ShelExec.exe is incorporated into the autorun script to ensure default programs within the shell are started 3.3. Autorun is linked to a reader in case the target audience do not have one pre-installed 3.4. Where autorun is linked to Adobe Reader, JavaScript is added to the appropriate folder to launch the PDF file
4. Burn CD-ROM/DVD	4.1. The CD-ROM/DVD layout is validated and saved correctly 4.2. The preferred CD-ROM/DVD format is chosen for the job 4.3. A test CD-ROM/DVD is burned to test the auto functions and confirm interactivity across different platforms 4.4. A master disc is produced for mass duplication

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by developing a welcome page that identifies the navigational structure of the media
- collecting, analysing and organising information by correctly compressing media at the right resolution with any text in the correct format
- planning and organising activities by preparing the CD-ROM/DVD structure before setting up auto functions
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by compressing media correctly to ensure images are at the right resolution
- problem-solving skills by testing the auto functions to confirm interactivity across different platforms
- use of technology by using computer hardware and software to create and test a CD-ROM/DVD

Required knowledge

- compression technologies
- media types
- relevant multimedia software
- relevant CD/DVD hardware for burning CDs/DVDs
- multi media navigation
- java script
- different multi media file formats eg PDF, JPEG, TIF

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Create an interactive CD-ROM/DVD that starts automatically and has no errors in any of the interactive functions • Create TWO different interactive CD-ROMs/DVDs which start automatically, have no errors in any of the interactive functions and besides autorun they will link with a reader for computers without a reader installed • Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • appropriate computer hardware and software.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Interactivity</i> may include:	<ul style="list-style-type: none"> • hyperlinks, sound, movies, animation, pop-ups.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units		

ICPMM321C Capture a digital image

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use digital camera technology for the production of colour separated images.
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Application of the Unit

Application of the unit	This unit requires the individual to use digital camera technology for the production of colour separated images.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess digital camera qualities	1.1. Camera software compatibility with hardware system is assessed and the appropriate software is selected for the job 1.2. Pixel resolution of the camera is matched to the required quality and resolution of outcome 1.3. The RAM capacity of the camera is checked to be appropriate to the number of images required to be captured 1.4. Shutter speed, focal lengths and camera feature modes (eg flash, scrollage, icon menu, close-up, wide angle and telephoto capacity) are assessed suitable for the quality and use of photographic images required 1.5. Lithium batteries are handled and stored according to OHS requirements
2. Set up for image capture	2.1. Camera is set up for image composition according to job specifications 2.2. Lighting is arranged according to job specifications 2.3. Light intensity is set for the correct exposure
3. Preview image	3.1. Tone curves are adjusted according to job specifications 3.2. The neutral balance of the image is arranged and adjusted 3.3. Adjustments to image composition and exposure are made
4. Photograph and upload a digital image	4.1. The digital camera is loaded and operated according to manufacturer's specifications appropriate to the quality of image to be photographed 4.2. The computer card interface/disk is uploaded onto the relevant computer and the image saved on hard disk 4.3. Photographic image files are created and stored on the computer according to software procedures 4.4. Photographic images are enhanced, cropped and altered electronically to deliver the required image 4.5. Photographic images are checked for fitness of purpose and conformance to the job brief 4.6. Photographic images are assessed fit for the relevant delivery mode (eg print, CD-ROM) and delivered appropriately

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by consulting with supervisors over the processing of digital images
- collecting, analysing and organising information by assessing the suitability of shutter speed, focal lengths and camera feature modes (eg flash, scrollage, icon menu, close-up, wide angle and telephoto capacity) for the photographic image required
- planning and organising activities by planning and coordinating digital image capture sessions
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by choosing the correct shutter speed and focal length to capture digital images
- problem-solving skills applied by identifying and correcting problems of image quality
- use of technology applied by using digital camera technology

Required knowledge

- digital camera use
- pixel resolution and how this affects the resolution of the image
- relevance of the RAM capacity of a digital camera
- importance of shutter speeds and focal lengths
- safety requirements for handling and storing lithium batteries
- uploading and processing digital images using a computer
- uploaded data to a computer from the computer card interface/disk
- process for filing and creating photographic image files on the computer
- enhancing, crop and altering photographic images electronically
- considerations that need to be made to assess a digital photograph suitable for a newspaper, glossy brochure and CD-ROM
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> photographed image meets the quality and look/ feel requirements of the brief. The digital camera functions are used to capture the required image underlying skills of capturing a digital image using a digital camera should be transferable across the associated sectors of the printing industry demonstrate an ability to find and use information relevant to the task from a variety of information sources assess the capacity of, and operate, a digital camera to upload and process THREE digital images using industry hardware and software to deliver a designated quality of image outcome evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Lighting may include:

- direct (main) fill in lighting/fill reflector

Types of systems may include:

- digital cameras used in the pre-press sector and associated sectors with which a pre-press organisation may be required to work

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units		

ICPMM322C Edit a digital image

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to edit and manipulate an image captured digitally and to prepare for export to electronic image assembly.
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Application of the Unit

Application of the unit	This unit requires knowledge of digital image capture, and the integral properties and characteristics of preparation of colour separation for print and digital file handling.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess digital image	1.1. Digital image is opened and resolution parameters assessed against job specifications 1.2. Image is converted from RGB to CMYK colour space 1.3. Image characteristics are evaluated for colour and tone requirements
2. Edit digital image	2.1. Suitable software is engaged to enable print image profiling and/or <i>manipulation</i> to suit print requirement 2.2. Image is retouched to conform to job specifications 2.3. Local colour correction is employed to conform with job specifications 2.4. Tone correction is undertaken to conform with job specifications 2.5. Edited image is saved to conform with job specifications 2.6. Image storage requirements are identified and employed 2.7. Image is saved ready for export

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating ideas and feedback from internal and external clients
- collecting, analysing and organising information by collecting and discussing information between client and work team members
- planning and organising activities by discussing and integrating digital image editing with other work team members as part of the workflow
- teamwork when sharing knowledge and information
- mathematical ideas and techniques by applying mathematical formula to determination of image resolution requirements
- problem-solving skills by identifying problems in quality and workflow and determining and implementing solutions
- use of technology by understanding technology applied in a coordinated manner

Required knowledge

- performing image editing
- circumstances that may require editing or manipulation
- why image profiling is required when preparing for printing
- why image storage is capability relevant
- selection of a JPEG or TIFF file format
- factors that may influence the grey balance and colour in the final result

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • photographed image meets the quality and look/feel requirements of the brief. The digital camera functions are used to capture the required image • understanding of image editing should be transferable across associated sectors of the printing industry • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • appropriate image manipulation software, hardware and file storage capability.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Input</i> may include:	<ul style="list-style-type: none"> digital camera device.
<i>Edit/manipulate</i> may include:	<ul style="list-style-type: none"> appropriate image edit/manipulation software.
<i>Output</i> may include	<ul style="list-style-type: none"> digital image storage capability and appropriate image digital proofing capability.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units		

ICPMM344C Manipulate and incorporate audio into multimedia presentations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to edit, combine and incorporate audio into multimedia presentations.
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Application of the Unit

Application of the unit	This unit describes the competency required to edit, combine and incorporate audio into multimedia presentations.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and describe formats of digital audio	1.1. The distinguishing features and uses of analogue and digital audio are determined 1.2. Terms describing audio characteristics (amplitude, sound waves, frequency, mono and stereo) are used correctly 1.3. Contemporary digital audio formats and their application in achieving defined outcomes are identified 1.4. Data rates for major digital <i>sources</i> and their relevance to defined outcomes are determined 1.5. Appropriate methods for saving and producing digital audio outputs are determined for a range of sources and destinations 1.6. Sampling techniques and sources for digital audio appropriate to defined outcomes are determined 1.7. Uses of MIDI technology are determined
2. Use digital audio software	2.1. Appropriate digital audio <i>software</i> is assessed and selected for the job 2.2. Programs are used to edit and manipulate audio according to the job brief
3. Edit digital audio	3.1. Single and multiple audio tracks are edited to achieve a defined outcome 3.2. Multiple tracks of digital audio are joined according to job specifications 3.3. Digital effects are employed to modify and integrate digital audio tracks according to job specifications 3.4. Time encoding is applied to single and multiple edited digital audio tracks according to job specifications 3.5. An audio track is inserted into a <i>multimedia production</i> sequence according to job specifications
4. Construct a digital audio track	4.1. Techniques for hooking sounds are identified 4.2. Defects on sound recordings are eliminated and/or treated 4.3. Special effects and mixing techniques are used on an audio track according to job specifications 4.4. Sequencers are used to create digital audio tracks according to job specifications 4.5. MIDI and sound cards are used to create digital

ELEMENT	PERFORMANCE CRITERIA
	audio according to job specifications 4.6. An audio track is produced using appropriate track construction software and hardware 4.7. Audio tracks are saved in the appropriate file formats

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- collecting, analysing and organising information by identifying digital audio formats
- mathematical ideas and techniques by identifying digital audio formats
- problem-solving skills by employing digital effects and modifying and integrating audio tracks
- use of technology by incorporating audio into multimedia presentations

Required knowledge

- principles of analogue and digital audio
- distinguishing features of analogue and digital audio
- amplitude, sound waves, frequency, mono and stereo
- contemporary digital audio formats
- data rates that apply to selected digital sources
- sampling, sampling techniques and sources for sampling digital audio
- MIDI technology
- contemporary digital audio formats
- distinguishing the features of selected digital audio software
- methods for saving and producing digital audio outputs
- audio frame
- joining multiple tracks of digital audio
- types of digital effects that are used to modify and integrate digital audio tracks
- purpose of time encoding
- storybook design
- principles of editing audio tracks
- sequencers used to create digital audio tracks
- purpose of sound cards
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • incorporate audio elements into different multimedia sequences, according to job specifications and the Performance Criteria • incorporate audio elements into at least TWO different multimedia sequences, according to job specifications and the Performance Criteria. There should also be evidence of: <ul style="list-style-type: none"> • ability to find and use information relevant to the task from a variety of information sources • ability to use a range of software suitable for incorporating and manipulating sound • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFMEM12A Update web pages.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Software may include:

- sound editing software such as:
 - protocols
 - fairlight.

Multimedia productions may include:

- any aspects or sections of film/video production, educational product, game, promotional product, information product, training product, e-commerce and a range of others.

Equipment used may include:

- digital recorders with/without timecode
- analogue recording devices
- multi track recorder
- stereo recorder
- portable mixers
- microphones including lavalier or neck
- shotgun and directional
- special application
- radio
- stereo
- amplifiers
- microphone stands
- microphone accessories
- microphone windscreens
- speakers
- mixing console/desk
- effects rack
- tape machines
- turntables
- CD (compact disc) player
- sequence sampler
- computer DAT (digital audio tape)
- mini disc
- reel to reel tape recorder
- hard disc recorder

RANGE STATEMENT	
	<ul style="list-style-type: none"> • DVD (digital versatile disc) • sound editing software including: <ul style="list-style-type: none"> • protocols • fairlight • cables and connectors.
<i>Source material</i> may include:	<ul style="list-style-type: none"> • dialogue, additional dialogue/voice overs, FX (effects), music, atmosphere, Foley.
<i>Audio defects</i> may include:	<ul style="list-style-type: none"> • hissing • popping • black holes.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units		

ICPMM346C Incorporate video into multimedia presentations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to edit, combine and incorporate video into multimedia presentations.
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Application of the Unit

Application of the unit	This unit describes the competency required to edit, combine and incorporate video into multimedia presentations.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and describe formats of digital video	1.1. The distinguishing features and uses of a range of digital video software are determined 1.2. Current video software appropriate to a range of given outcomes is selected 1.3. Limiting factors of computer hardware on video production for a specified job are determined 1.4. Differences of image quality and image size required to deliver the desired outcome are determined 1.5. Data input, processing and output relevant to video are explained 1.6. The formats employed to create a given computer video sequence for a specified outcome are analysed
2. Design digital video	2.1. Appropriate digital video software for the job is assessed and selected 2.2. Digital video editing software is used to combine video assets 2.3. Variations in video frame rates are controlled as required for the job to be undertaken 2.4. Time stamping techniques are applied to the video frames as required for the job to be undertaken 2.5. Digital video is saved using the appropriate file techniques
3. Edit digital video	3.1. Single and multiple video tracks are edited to achieve a defined outcome 3.2. Multiple tracks of digital video are joined according to job specifications 3.3. Digital effects are employed to modify and integrate digital video tracks according to job specifications 3.4. Time encoding is applied to single and multiple edited digital video tracks according to job specifications 3.5. A video track is inserted into a multimedia production sequence according to job specifications
4. Present a digital video sequence	4.1. Digital video is tested and combined with other <i>digital imaging, sound</i> and/or animation to create a multimedia sequence 4.2. The multimedia sequence including video is saved and presented to the client

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- collecting, analysing and organising information by analysing formats to create a video sequence
- planning and organising activities by determining limiting factors of computer hardware
- mathematical ideas and techniques by determining differences of image quality and image size
- problem-solving skills by determining limiting factors of computer hardware
- use of technology by incorporating video into multimedia presentations

Required knowledge

- digital video formats
- distinguishing features of a selected video software program
- limiting factors of video production on computer
- differences of image quality and image size obtained
- contemporary video software
- combining given video assets
- features and differences between current video software packages.
- principles of video production
- how variations in video frame rates are controlled
- why time stamping techniques are applied to video frames
- digital medium for video
- considerations when combining digital video with other digital imaging, sound and/or animation to create a multimedia sequence
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • design, compile, edit and test multimedia sequences incorporating video, according to job specifications and the Performance Criteria • design, compile, edit and test at least TWO multimedia sequences incorporating video, according to job specifications and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • a range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFMEM06A Design a multimedia product • CUFMEM07A Apply principles of visual design and communication to the development of a multimedia product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Digital imaging</i> may include:	<ul style="list-style-type: none"> titles/text, graphic images, 2D and 3D animation, 3D modelling, opticals, transitions such as dissolves, fade ins, fade outs, supers, subtitles, special effects.
<i>Sound</i> may include:	<ul style="list-style-type: none"> sound effects, music, atmospheric, dialogue, additional dialogue, eg re-recorded and narration.
<i>Multimedia products or presentations</i> may include:	<ul style="list-style-type: none"> educational game, promotional information, training, e-commerce and a range of others.
<i>Industry standard software</i> may include:	<ul style="list-style-type: none"> a wide range of current programs examples of which are Adobe Premier, QuickTime, Media 100. Note: these programs are constantly being upgraded and replaced and appropriate up-to-date programs should be selected.
<i>Documentation</i> may include:	<ul style="list-style-type: none"> computer-generated manually written, scripts, production schedules, manufacturer's specifications/instructions, contracts, edit decision lists (EDLs), list of sequences with relevant shot numbers, assembly order, marked-up scripts, marked-up transcripts, sound sheets including timecode log sheets for location sound recordings, wild line and sound effects log sheets.
<i>Visual effects</i> may include:	<ul style="list-style-type: none"> keyers to combine, DVEs to move and distort, colour corrections to modify, texture generation to add blur, trackers to follow parts of the picture, production of titles, production of optical effects, graphic images, opticals, transitions such as dissolves, fade ins, fade outs, supers, subtitles, special effects.
<i>Video format</i> may include:	<ul style="list-style-type: none"> VHS SVHS DVC Umatic

RANGE STATEMENT	
	<ul style="list-style-type: none"> • SP • Beta-cam • Digital Beta-cam.
<i>Editing equipment</i> may include:	<ul style="list-style-type: none"> • computer hardware • non-linear digital editing and graphics software programs • monitors • keyboard and mouse • external hard drive • external disk drive • additional computer hardware • source and record machines • computer software programs • graphics computer program • digital video effects system (DVE) • digital disk recorder (DDR) • video transfer recorder (VTR).
<i>Editing consumable materials</i> may include:	<ul style="list-style-type: none"> • computer disks • paper for hardcopy • compact discs.
<i>Memory</i> may include:	<ul style="list-style-type: none"> • disk • hard drive • internal • external.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units		

ICPMM491D Create an extensible document

Modification History

Release	Comments
Release 1	<p>This Unit first released with <i>ICP10 Printing and Graphic Arts Training Package</i> version 2.0.</p> <p>Prerequisite unit requirement updated to equivalent current version.</p> <p>Replaces ICPMM491C Create an extensible document.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to create a well-formed syntax error-free extensible mark-up language document.

Application of the Unit

This unit requires the individual to create an extensible markup language (XML/PPML) document for content publishing that is well-formed, free of errors, meets the needs of the business and is extensible to meet future business needs. For this unit the extensible mark-up language document is the data-store and ICPMM492D Create an extensible style sheet transforms the XML/PPML into screen or print output.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit of competency.

Pre-Requisites

ICAWEB429A Create a markup language document to specification

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Define document structure	<p>1.1 All details required for the job are checked and confirmed against the job specifications</p> <p>1.2 The <i>mark-up language</i> version and the character encoding used in the <i>document</i> or declaration statement are defined and/or inserted in the document</p> <p>1.3 An external or internal Document Type Definition (DTD) or mark-up language schema is chosen and correctly wrapped and referenced depending on project requirements</p> <p>1.4 The root element is correctly defined and all elements are accurately nested</p> <p>1.5 Attribute types and default values are declared, where necessary, to provide information about the <i>data</i></p> <p>1.6 Occurrences of elements are stated and elements of mixed content declared</p>
2. Confirm validity	<p>2.1 Start and end tags are included and closed to ensure no element errors</p> <p>2.2 Namespaces are used to resolve name conflicts</p> <p>2.3 The document is well-formed, error-free and conforms to the mark-up language syntax rules</p> <p>2.4 The document conforms to the rules of a Document Type Definition (DTD) or the mark-up language schema</p>
3. Finalise and test document	<p>3.1 Character data (CDATA) sections are added to the document structure</p> <p>3.2 The final document is viewed with a mark-up language parser</p> <p>3.3 The mark-up language document is well-formed, free of errors and meets the needs of the business</p> <p>3.4 The document is linked to an extensible style sheet and template and tested</p> <p>3.5 The document is extensible to meet future business needs</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information applied by detailing attribute types and default values
- collecting, analysing and organising information by forming an error-free document that conforms to the mark-up language syntax rules
- planning and organising activities by defining the document structure prior to confirming validity
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by detailing attribute types and default values
- problem-solving skills by developing a mark-up language document free of errors
- use of technology by using industry software to create a mark-up language document.

Required knowledge

- SGML
- standard Generalised Mark-up Language and why it is important
- how SGML relates to XML and PPML
- difference between SGML, PPML and XML and when you use SGML over XML
- XSL
- how Cascading Style Sheets (CSS) and XSL differ
- purpose of XSL is
- HTML
- when to use an extensible mark-up language over HTML and why
- ways to use both with the one set of data
- metadata
- purpose metadata serves within a mark-up language document
- importance of PRISM for content publishing
- PPML
- how Personalised Print Mark-up Language relates to XML.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • create content that is well-formed, free of errors, meets the needs of the business and is extensible to meet future business needs. The XML/PPML file can be parsed and validates • two different extensible mark-up language documents are created and are well-formed, free of errors, meet the needs of the business and are extensible to meet future business needs. Both the XML/PPML files can be parsed and validate • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a standalone computer and mark-up language parser.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPMM492D Create an extensible style sheet • ICPPP494C Develop document content and structure • ICPPP485C Create a digital data template.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Mark-up language</i> may include	<ul style="list-style-type: none"> new languages mark-up languages include: <ul style="list-style-type: none"> XML PPML.
<i>Document</i> may include:	<ul style="list-style-type: none"> contains elements, entity references, comments, processing instructions, marked sections and document type definition or mark-up language schema.
<i>Data</i> may include:	<ul style="list-style-type: none"> includes mixed data.
<i>PPML</i> may include:	<ul style="list-style-type: none"> personalised Print Mark-up Language.
<i>Document purpose</i> may include:	<ul style="list-style-type: none"> electronic publishing, e-commerce, web services, interchange of data amongst different applications, software configuration files.
<i>Electronic Publishing</i> may include:	<ul style="list-style-type: none"> electronic publishing in this context does not mean the use of page layout applications but rather the development of content to meet the needs of different audiences and different output devices.

Unit Sector(s)

Multimedia

ICPMM492D Create an extensible style sheet

Modification History

Release	Comments
Release 1	<p>This Unit first released with <i>ICP10 Printing and Graphic Arts Training Package</i> version 2.0.</p> <p>Prerequisite unit requirement updated to equivalent current version.</p> <p>Replaces ICPMM492C Create an extensible style sheet.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to create an extensible style sheet.

Application of the Unit

This unit requires the individual to create extensible style sheets for electronic publishing or online documents including computer screens and handheld devices. The individual will incorporate the presentation and transformation requirements in the style sheets and templates.

For this unit the extensible style sheet transforms the XML/PPML into screen or print output while ICPMM491D Create an extensible document is the data-store.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit of competency.

Pre-Requisites

ICAWEB429A Create a markup language document to specification

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Prepare the source document	<p>1.1 The source document is validated as free of errors</p> <p>1.2 The style and transformation requirements of the source document are confirmed</p> <p>1.3 <i>Advanced styling requirements</i> are confirmed as required</p> <p>1.4 The different <i>media, display formats</i> and target audience preferred platforms and abilities are confirmed</p> <p>1.5 The source document is prepared for the <i>style sheet</i></p>
2. Create the style sheet	<p>2.1 Multiple templates are designed and applied to the style sheet</p> <p>2.2 The style sheet is developed using the required presentation styles</p> <p>2.3 Transformation requirements are incorporated into several style sheets</p> <p>2.4 The style sheet is associated/linked with the source document and tested</p>
3. Test the style sheet	<p>3.1 The style sheets are validated to ensure correct presentation and transformation</p> <p>3.2 The style sheet is updated if errors occur and validated again</p> <p>3.3 The style sheet is linked to a data-store and to a digital template and tested</p> <p>3.4 The style sheet is extensible to meet future business needs</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information applied by developing style sheets that use the required presentation styles
- collecting, analysing and organising information by confirming the different media, display formats and preferred target audience platforms and abilities
- planning and organising activities by preparing the source document prior to creating the style sheets
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques applied by confirming the style and transformation requirements of the source document
- problem-solving skills applied by developing an extensible style sheet free of errors
- use of technology applied by using industry software to create an extensible style sheet.

Required knowledge

- document Style Semantics and Specification Language (DSSSL)
- application of DSSSL where it can be used to develop an extensible style sheet
- XSL
- how Cascading Style Sheets (CSS) and XSL differ
- intended purpose of XSL
- HTML
- when to use an extensible mark-up language over HTML and why
- Ways to use both with the one set of data
- PPML
- how Personalised Print Mark-up Language relates to XML
- metadata and PRISM
- providing a work-based example of the application of Metadata and/or PRISM.
- essential differences between these functions.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • create extensible style sheets for electronic publishing or online documents • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • industry standard software and relevant hardware.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPMM491D Create an extensible document • ICPPP494C Develop document content and structure • ICPPP485C Develop a digital data template.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Advanced styling requirements</i> may include:	<ul style="list-style-type: none"> headers, footers, page numbers and page number citations and other pagination semantics for print-oriented rendering for a range of measurements.
<i>Media</i> may include:	<ul style="list-style-type: none"> screen, paper or voice for example.
<i>Display formats</i> may include:	<ul style="list-style-type: none"> HTML, PDF, Braille and typesetting languages.
<i>Style sheets</i> may include:	<ul style="list-style-type: none"> this unit does not cover Cascading Style Sheets (CSS).
<i>Mark-up language</i> may include:	<ul style="list-style-type: none"> new languages markup languages are becoming available regularly and examples include XML and PPML. This unit does not cover HTML which is covered by another unit ICAWEB429A Create a markup language document to specification.
<i>Document purpose</i> may include:	<ul style="list-style-type: none"> electronic publishing, e-commerce, web services, interchange of data amongst different applications, software configuration files.
<i>Electronic Publishing</i> may include:	<ul style="list-style-type: none"> electronic publishing in this context does not mean the use of page layout applications but rather the development of content to meet the needs of different audiences and different output devices.

Unit Sector(s)

Multimedia

ICPMM581C Manage multimedia production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage the multimedia production cycle.
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Application of the Unit

Application of the unit	This unit covers the skills required to manage the multimedia production cycle.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Design a production cycle for a multimedia product	1.1. Management components of the production cycle are identified and coordinated to achieve a defined outcome 1.2. Concepts for multimedia integration are posited and their sequence planned 1.3. Prototype sequences are designed and tested according to job specifications 1.4. Multimedia production is undertaken that conforms to product specifications 1.5. The final product is tested for conformance to specifications and released to client
2. Define the attributes of interactive multimedia products	2.1. The attributes of hypermedia are defined and incorporated into a given production 2.2. The attributes of hypertext are defined and incorporated into a given production 2.3. Linear and interactive information structures are distinguished and incorporated into a given production
3. Manage research	3.1. Client specifications are researched and checked with client to deliver the desired outcome 3.2. Files, documents, images and footage relevant to project requirements are sourced and their functions documented and sequenced 3.3. Liaison with clients is undertaken, records of interviews kept, and specifications monitored within the management of the project to achieve the required outcomes 3.4. Files, documents, images and footage relevant to specific projects are filed for future reference with regard for client confidentiality
4. Manage the multimedia process	4.1. The order of process procedure is determined and documented to deliver the desired outcome 4.2. Costs are determined, checked with client, and documented to deliver the desired outcome 4.3. Quality outcomes are determined and documented and a quality system is established to monitor the quality of the product 4.4. The product outcome is produced fit for the purpose 4.5. The product is tested against specifications prior to client release

ELEMENT	PERFORMANCE CRITERIA
	4.6. Endorsement of the product by the client is gained to ensure specifications have been fulfilled

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with clients
- collecting, analysing and organising information by researching client specifications
- planning and organising activities by identifying the production cycle
- teamwork when liaising with clients
- mathematical ideas and techniques by maintaining costs within budget
- problem-solving skills by testing product to ensure it meets specifications
- use of technology by working on a multimedia product

Required knowledge

- multimedia production cycle
- management components of the production cycle
- considerations involved in multimedia integration
- designing and testing prototype sequences
- multimedia product testing
- interactive multimedia product attributes
- attributes of hypermedia
- attributes of hypertext
- difference between linear and interactive information structures
- multimedia production process
- quality considerations of multimedia production
- managing research
- how files, documents, images and footage are relevant to project requirements sourced
- steps necessary to ensure good liaison with clients

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • establish, monitor and evaluate a production cycle including the project management of all technical aspects of the project • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce a portfolio covering a period of THREE months' information on the management of TWO multimedia projects that demonstrates establishing, monitoring and evaluating a production cycle including using attributes of specific multimedia interactivity. The portfolio should include material that covers defined components of a production cycle, concepts for multimedia integration, prototype sequences and attributes, product testing and quality considerations • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of systems may include:

- multimedia systems used in the pre-press sector and associated sectors with which a pre-press organisation may be required to work.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units	

ICPMM582C Manage multimedia projects

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage multimedia projects.
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Application of the Unit

Application of the unit	This unit covers the management of multimedia projects.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop a project plan	1.1. The elements of the project plan are identified according to the principles of project management 1.2. Planning tools are identified for application to the project 1.3. Time and budget factors are identified and incorporated into the plan
2. Manage resources and time	2.1. Hardware resources relevant to specific multimedia tasks are identified, evaluated and incorporated to achieve the required outcome 2.2. Time management is integrated into project planning and monitoring 2.3. Human resources are incorporated and supported within the project framework to achieve the required outcome 2.4. Teamwork elements are identified and developed to achieve the required outcome
3. Identify legal issues	3.1. Copyright principles and conventions relevant to digital data are identified and legal precedents noted 3.2. The copyright issues relating to multimedia authoring, digital imaging and digital sound are explained and strategies are devised to account for relevant contingencies 3.3. Copyright ownership of multimedia authoring, digital imaging and digital sound is established prior to commencing a brief and relevant documentation verified 3.4. Applications of law with reference to multimedia product warranties, software licences, consultants, sponsors and distribution are determined appropriate for the job to be undertaken and relevant to the industry sector
4. Manage research	4.1. Files, documents, images and footage relevant to project requirements are sourced and their functions documented and sequenced 4.2. Liaison with clients is undertaken, records of interviews kept, and specifications monitored within the management of the project to achieve the required outcomes 4.3. Files, documents, images and footage relevant to specific projects are filed for future reference with regard for client confidentiality

ELEMENT	PERFORMANCE CRITERIA
5. Determine and manage multimedia budgets	<p>5.1. Estimation models of costs are identified and applied to a range of multimedia products</p> <p>5.2. Budget plans are established and checked against estimations to deliver accurate costings</p> <p>5.3. Tendering processes and costs are determined and implemented to deliver the required outcome within designated time frames and costs</p> <p>5.4. Project costs are determined, documented and monitored continuously to comply with business commitments and legal obligations</p> <p>5.5. Business transactions are undertaken ethically and according to law</p> <p>5.6. Multimedia project budget estimates and expenditure are contrasted and documented to assist in future business dealings</p>
6. Manage project outcomes	<p>6.1. Multimedia inputs are combined to form a definitive master</p> <p>6.2. The master product is duplicated and distributed according to client specifications</p> <p>6.3. The project outcomes are refined to meet quality standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by explaining copyright issues
- collecting, analysing and organising information by identifying legal issues
- planning and organising activities by developing a project plan
- teamwork when liaising with clients and identifying teamwork elements
- mathematical ideas and techniques by determining a budget
- problem-solving skills by ensuring projects meet client specifications
- use of technology by working on multimedia projects

Required knowledge

- developing a project plan
- elements that need to be included in a multimedia project plan
- how time and budget factors are incorporated into a project plan
- managing resources and time
- hardware resources relevant to specific multimedia tasks
- how time management is integrated into project planning and monitoring
- how human resources are incorporated and supported within the project framework
- teamwork elements to be implemented in a project plan
- managing research
- how files, documents, images and footage are relevant to project requirements sourced
- steps that are necessary to ensure good liaison with clients
- managing project outcomes
- how the multimedia master is created
- how the master is duplicated and distributed
- legal issues that apply to multimedia production
- copyright principles and conventions relevant to digital data
- copyright issues relating to multimedia authoring, digital imaging and digital sound
- copyright of multimedia authoring, digital imaging and digital sound
- laws applying to multimedia product warranties, software licences, consultants, sponsors and distribution
- multimedia budgets
- estimation models used in multimedia production
- budget plans
- tendering processes

REQUIRED SKILLS AND KNOWLEDGE

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|---|
| <ul style="list-style-type: none">• project costing |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manage a multimedia project including establishing, monitoring and evaluating a production cycle and using attributes of specific multimedia interactivity demonstrate an ability to find and use information relevant to the task from a variety of information sources produce a portfolio that demonstrates multimedia project management including establishing, monitoring and evaluating a production cycle and using attributes of specific multimedia interactivity over TWO different completed projects. The portfolio should include material that covers planning tools, time and budget factors, resource management, time management, human resources, teamwork, research management and a multimedia master evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of systems may include:

- multimedia systems used in the pre-press sector and associated sectors with which a pre-press organisation may be required to work.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Multimedia
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Co-requisite units

Co-requisite units	

ICPPP211C Develop a basic design concept

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake graphic design to produce roughs and finished art.
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Application of the Unit

Application of the unit	This unit requires the individual to demonstrate a set range of design skills while working in consultation with others to ensure production and final user requirements have been met.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess brief requirements	1.1. The printing requirements of the <i>layout brief</i> are determined to align pre-press processes with printing feasibility 1.2. The brief is broken down into stages of production in order to determine a plan of procedure 1.3. A plan of action is determined to meet the time requirements of each stage so that deadlines are identified and adhered to 1.4. Correct design and typographic terms are used to facilitate communication according to industry standards
2. Assemble layout	2.1. Client copy and images are assembled to conform to the brief requirements 2.2. Library files are accessed for relevant data to conform to the brief requirements 2.3. Appropriate equipment and materials to complete the layout are assembled to enable the brief to be undertaken efficiently 2.4. The design area is cleaned and prepared ready for use
3. Render a simple graphic design	3.1. The client requirements are checked to ensure a design concept matches the brief 3.2. Preliminary graphic design ideas are constructed according to the brief 3.3. A simple graphic design concept is rendered electronically to conform to the client brief 3.4. The rendered graphic design is checked for conformance with the requirements of the brief
4. Produce finished artwork	4.1. A layout grid is created to meet the specifications of the client brief 4.2. Type is selected for readability style and fitted into the grid space allocated to conform to brief requirements 4.3. Photographs and illustrations are selected, scaled and cropped appropriately to fit the grid space allocated 4.4. Overlays/colour roughs are created to conform to brief specifications 4.5. The components of the layout are positioned accurately using keylines to conform to the grid framework

ELEMENT	PERFORMANCE CRITERIA
5. Check for suitability	5.1. The layout is checked to eliminate omissions and <i>errors</i> 5.2. The layout design is checked against the requirements of the brief to conform to the critical requirements of the proposed medium 5.3. The layout is rendered ready to present to the client
6. Tidy materials and store data	6.1. Equipment and materials are returned to storage according to <i>enterprise procedures</i> 6.2. Design data and materials are saved and/or filed ready for future retrieval according to enterprise procedures 6.3. The design area is cleaned according to enterprise procedures ready for re-use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by determining exactly what client wants from brief and subsequent discussion
- collecting, analysing and organising information by balancing and matching client demands with requirements for reproduction and costs
- planning and organising activities by coordinating job sequence so that as materials arrive they are processed and can be checked efficiently
- teamwork when ensuring that designers, printers and clients all know what they need to do and when
- mathematical ideas and techniques by calculating costs and enlargement/reduction factors
- problem-solving skills by coping with discrepancies between brief and what is possible
- use of technology by using appropriate software to create design and ensuring files are saved in required format

Required knowledge

- the purpose of this artwork being prepared
- number and the specific colours of the job
- scale that is this artwork to the finished job
- the difference between reflective and transparent originals
- three essential elements to consider when preparing art for printing/publication
- the different requirements for TWO different printing or electronic output processes
- using manual/computer techniques to prepare colour rough
- various types of halftone dot structures and the maximum and minimum tonal ranges that could be used to reproduce this artwork
- OHS concerns that are there when using cameras or computers
- the colour sequence and overlap for transparent/opaque colours
- preparing the finished artwork at this size or scale
- choosing specific type faces
- effect (influence) that the selection of different type faces have on a job
- method used for registration and trim marks
- artwork evaluation for density, definition and resolution, and how can this be corrected
- the characteristics of properly prepared line artwork

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• finished art compliance with job specifications and approved colour rough• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the rendered design meets the requirements of the design brief. The design conforms to commercial design standards and meets reproduction final use requirements the underlying skill of designing a basic layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare TWO sets of colour roughs and artwork containing line and tone work according to specifications of the client brief and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Layout brief</i> may include:	<ul style="list-style-type: none"> describes and specifies the work to be completed, identifies all requirements for the job.
<i>Errors</i> may include:	<ul style="list-style-type: none"> spelling, grammatical, style and placement.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Complexity of process</i> may include:	<ul style="list-style-type: none"> artwork may contain simple line work or a combination of line and tone.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP221C Select and apply type

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake basic typesetting skills.
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Application of the Unit

Application of the unit	This unit requires an individual to select the required fonts and to fit and proof the type. The individual will be supervised and the choice of actions required will be clear.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify fonts	<p>1.1. A range of fonts is identified to meet diverse client requirements and final <i>output</i> media</p> <p>1.2. Point sizes and leading of type are identified to meet diverse client requirements and final output media</p>
2. Select, fit and produce type for a basic brief	<p>2.1. Appropriate type is selected to meet the specifications of the <i>brief</i></p> <p>2.2. Type is fitted into the copy space allocated according to the design layout</p> <p>2.3. Type is set and produced using rules and boxes according to the design layout</p>
3. Proof read and correct type	<p>3.1. Type is checked for accuracy, omissions and errors according to job specifications</p> <p>3.2. Proofs are marked up with correct proof reading marks</p> <p>3.3. Type is corrected to accord with job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job brief to ensure that the job is done appropriately
- collecting, analysing and organising information by matching characteristics of fonts, sizes and layouts with requirements of the job brief
- planning and organising activities by selecting and fitting appropriate type
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating fit and point sizes
- problem-solving skills by fitting type in the allocated copy space
- use of technology by selecting and applying type using software applications

Required knowledge

- different printing processes or electronic media and the affect on type selection and design
- aspects of typography that influence the design of the brief
- limitations with type reproduction in the printing processes
- serif and sans serif categories
- type atmosphere
- elements of a dynamic arrangement
- text and margin proof reader marks
- grammar, punctuation and the apostrophe
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> selecting and fitting appropriate fonts to meet the job specifications. Proofing the type for errors and correcting the underlying skills of selecting and applying type should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competency be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources use manual or electronic equipment and suitable software to select, set, arrange and modify type in TWO different jobs according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate. <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Output may include:	<ul style="list-style-type: none"> type proof, screen display and mono chromatic PS laser image.
Brief may include:	<ul style="list-style-type: none"> specifications for the job that may include instructions which include samples of the product.
Complexity may include:	<ul style="list-style-type: none"> simple briefs that do not involve problem solving or complex layouts or designs includes stock of varying qualities and proportions.
Input may include:	<ul style="list-style-type: none"> interpretation of brief.
Capture may include:	<ul style="list-style-type: none"> manual typesetting; proprietary or computer equipment.
Manipulation/edit may include:	<ul style="list-style-type: none"> software and/or hardware function.
Quality standards may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP223C Photograph a line image

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake graphic arts camera work. The skill is used in the industry but is becoming obsolete and should probably not be part of entry level training.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare a camera and equipment to photograph a line image. It requires the individual to photograph a line image that meets design and production quality standards.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the camera	<p>1.1. The camera is prepared to ensure the appropriate size and focus for the job</p> <p>1.2. The correct exposure for line reproduction is established according to the manufacturer's specifications</p>
2. Prepare and operate a processor	<p>2.1. The processor is prepared to ensure correct chemical balance, temperature and maintenance</p> <p>2.2. The processor is operated in line with established procedures</p>
3. Operate a camera	<p>3.1. Appropriate photographic material and processing chemical combination is selected for the line image</p> <p>3.2. Line images are photographed using the correct camera settings</p> <p>3.3. The quality of the photographic output is evaluated to ensure suitability for design purpose and final media or reproduction process</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching requirements of the job brief with production requirements and constraints
- planning and organising activities by preparing and operating the processor
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors and exposures
- problem-solving skills by ensuring the correct balance of chemicals and temperature
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- effect of different printing processes on line images
- enlargement factor calculation
- base exposure data
- factors that cause base exposure to change
- correctly processed image
- factors that control the quality of output through the processor
- copy characteristics that require a change to base exposure
- relationship between magnification and exposure
- characteristics of a correctly exposed line negative
- image requirements for the various printing processes
- OHS concerns that are there when operating a processor?
- maintaining consistent output from the processor
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> evaluating the quality of the photographic output to ensure suitability for design purpose and final media or reproduction process the underlying skill of photographic images should be transferable across different camera designs and processing systems. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing process demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare, set up and use a graphic arts camera to photograph and process TWO different line originals according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment mechanical and/or electronic equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate. <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.
<i>Output</i> may include:	<ul style="list-style-type: none"> • diffusion transfer, rapid access.
<i>Input</i> may include:	<ul style="list-style-type: none"> • a variety of high contrast line artwork.
<i>Capture</i> may include:	<ul style="list-style-type: none"> • a variety of graphic arts cameras.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> • spotting, mask cutting.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP224C Produce pages using a page layout application

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to compose pages based on a client brief using a high-end application.
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Application of the Unit

Application of the unit	This unit requires the individual to arrange basic elements on a page, finalise the artwork and check the quality.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Arrange elements on page	1.1. Client copy and images are assembled to conform to the design brief 1.2. Text is prepared and required fonts and font size are used 1.3. Basic elements are created and arranged on page to conform to the design brief 1.4. Elements are copied and pasted according to the design brief 1.5. The help function is accessed if required and solution to queries found 1.6. Document set up is completed to conform to the design brief
2. Finalise artwork	2.1. Pages and combined elements are composed correctly to suit specified page size 2.2. Margins and borders incorporate a bleed allowance
3. Check quality	3.1. Text is reviewed for possible errors and omissions and errors are discussed with client or supervisor 3.2. Arrangement of the basic elements maintains overall balance of the layout and correct tonal quality 3.3. A hard copy proof is printed and rechecked for errors, omissions and the overall balance of the layout 3.4. Trim marks and margins are correctly placed 3.5. Necessary changes are made and reviewed on screen and reproofed as required 3.6. The job is saved according to enterprise procedures 3.7. A proof or PDF is created to present to client

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by clarifying information with client or supervisor
- collecting, analysing and organising information by arranging elements on a page
- planning and organising activities by identifying basic elements to be used
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by organising basic elements on the page
- problem-solving skills by imposing pages and combined elements to correctly suit specified sheet size
- use of technology by using hardware and software applications

Required knowledge

- consideration given to the printing process during the design phase
- problems that can occur if the printing process isn't considered during the design stage
- substrate size consideration during imposition
- planning for multiple colours and graphics during imposition
- considerations that are given to ensuring your health and safety when using a keyboard
- importance of saving documents in particular areas of a computer or network
- finding a document on a computer or network
- changing and saving templates
- the value of style guides and style sheet

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> producing a page layout that meets the client's design brief and is print ready demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare TWO different sets of page layouts according to the listed Performance Criteria for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment page layout applications such as QuarkXPress, INDesign, PageMaker or others will be required for assessment of this unit of competency. New software applications and new versions of existing products enter the market regularly and therefore this example group will change.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none"> • ICPPP211C Develop a basic design concept.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Basic elements</i> may include:	<ul style="list-style-type: none"> • simple filled or unfilled boxes, frames, and rules (lines) or bullets used as accents or to divide a page into sections.
<i>Document set up</i> may include:	<ul style="list-style-type: none"> • margins, page size, page orientation, number of pages, arrangement of pages.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • enterprise procedures for saving a document may include the preferred format, naming preferences and the location the file is saved to.
<i>High-end page layout tools</i> may include:	<ul style="list-style-type: none"> • may include QuarkXPress, INDesign, PageMaker or others.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP225C Produce graphics using a graphics application

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop computer-generated graphics based on a client brief using a high-end application.
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Application of the Unit

Application of the unit	This unit requires the individual to develop computer-generated graphics based on a client brief using a high-end application.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work environment	1.1. Details of the brief are reviewed to identify preference setting requirements 1.2. Monitor is calibrated using an ICC profile to ensure closest possible colour match 1.3. Palettes are arranged to suit job and personal preferences 1.4. View magnification is set for ease of working with the graphics
2. Produce objects	2.1. Ruler units are set and grid is displayed to ensure artwork meets design specifications 2.2. Tools are used to produce <i>objects</i> and required attributes are entered and shapes <i>manipulated</i> , continuing until graphic framework is finalised 2.3. Lines and curves are adjusted and <i>edited</i> to fit design specifications 2.4. Objects are painted, transposed and strokes and <i>effects</i> are scaled according to the design brief 2.5. <i>Colours</i> are created, edited and saved to the colour palette and saturation of colour is adjusted 2.6. Colour and <i>appearance attributes</i> are selected and copied as required 2.7. Gradients fills, mesh and patterns are used to paint and blend as required by the layout and design brief
3. Alter objects	3.1. Objects are grouped or individually selected, moved, scaled or rotated using a variety of methods 3.2. Objects are reflected, sheared and distorted according to the design brief 3.3. Three dimensional objects are formed and edited and gradient colour added to create depth 3.4. The perspective of the objects is adjusted as required 3.5. Transformations are repeated according to the design brief 3.6. Smooth colour blends are created between objects and blends are modified as required to meet the design brief
4. Add type as a graphic element	4.1. Required type is added to type containers and type attributes and <i>formatting</i> are set to reflect the design brief 4.2. Type is wrapped or placed along a path to

ELEMENT	PERFORMANCE CRITERIA
	<p>complement the graphic</p> <p>4.3.Type is converted to type outlines or letterforms and shapes are modified</p>
5. Set appearance attributes and styles	<p>5.1.The <i>properties</i> of the graphic are set and meet the design brief</p> <p>5.2.Effects are added to a graphic and edited to make the appearance more suitable according to the design brief</p> <p>5.3.Appearances required for further use are saved as styles</p>
6. Set up layers	<p>6.1.Objects are organised in layers and stacking order is controlled</p> <p>6.2.Layers are locked and/or nested and grouped according to the design brief</p> <p>6.3.Styles are added or removed from layers when layer consistency is or is not required</p>
7. Finalise document	<p>7.1.The appropriate format for saving the graphic is identified given the various <i>elements</i> in the graphic</p> <p>7.2.The resolution for effects and any filters are set based on image quality</p> <p>7.3.Document is checked to ensure correct layout file and that there are no non-printable elements</p> <p>7.4.PDF or other export options are fixed to the best settings for the final media and the file is then exported and saved</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by producing graphics using a graphics application
- collecting, analysing and organising information by reviewing the brief to identify preference setting arrangements
- planning and organising activities by preparing the work environment before producing objects
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by setting the view magnification to maximise ease of viewing
- problem-solving skills by creating smooth colour blends between objects
- use of technology by fixing export options to suit the final media

Required knowledge

- image formats (SWF, SVG, GIF, JPEG, PNG, Bitmap and others)
- correct application selection
- manipulation of graphics
- colour models
- attributes of appearance
- effects
- filters
- text and formatting
- interpreting a brief

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> developing graphics based on client brief using a high-end application demonstrate an ability to find and use information relevant to the task from a variety of information sources for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment industry standard computer type and current software application should be used.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPPP224C Produce pages using a page layout application.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Objects may include:	<ul style="list-style-type: none"> predefined shapes, drawn objects, curved segments, lines.
Manipulated may include:	<ul style="list-style-type: none"> shapes are rotated, position and sizes changed, shapes sent to back or forward, scaled and copied.
Edited may include:	<ul style="list-style-type: none"> transparency, gradients, strokes, custom colours using CMYK sliders.
Effects may include:	<ul style="list-style-type: none"> glows, textures, opacity, blur and others.
Colours may include:	<ul style="list-style-type: none"> CMYK colours, Spot colours, Registration colours, PMS.
Appearance attributes may include:	<ul style="list-style-type: none"> fills, strokes, effects, blending modes, transparency.
Formatting may include:	<ul style="list-style-type: none"> font, leading, paragraph alignment, character size, columns of type, text flow.
Properties may include:	<ul style="list-style-type: none"> are appearance attributes such as above.
Elements may include:	<ul style="list-style-type: none"> layers, fine lines, blending, feathering.
High-end application may include:	<ul style="list-style-type: none"> Adobe Illustrator, Adobe Photoshop, CorelDRAW, Freehand, InDesign, QuarkExpress.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP231C Manually combine spot colour and basic four-colour images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually combine images. The skill is used in the printing industry but is becoming obsolete.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare images and film and to combine elements and prepare registration and artwork for the next production stage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate images for combining	1.1. Screen rulings are checked according to job specifications and enterprise procedures 1.2. Dot percentages are checked according to job specifications and enterprise procedure 1.3. Image orientation is checked according to job specifications
2. Contact film	2.1. The frame is prepared for contacting according to enterprise procedures 2.2. Film is contacted using a vacuum frame and using predetermined exposures according to job specifications
3. Combine film manually	3.1. A range of basic combining techniques is identified to meet diverse client requirements and film substrates 3.2. Film is combined employing brush skills to achieve opaquing according to job specifications 3.3. Film is combined adding masks according to design specifications 3.4. Film is combined adding tints and stipples according to design specifications
4. Combine paste-up elements manually	4.1. Film is combined adding tints and stipples according to design specifications 4.2. Screen, line and type images are combined on the base sheet according to job specifications 4.3. Masks are produced and positioned on the base sheet for the purpose of adding tints, stipples and colour according to design specifications 4.4. Rules, keylines and cut marks are drawn according to job specifications 4.5. The assembled paste-up is checked for squareness, accuracy in the positioning of elements and cleanliness of work
5. Maintain the register of combined images	5.1. Punch register systems are applied to combine images 5.2. The registration of combined images is accurately placed to ensure alignment of film 5.3. The registration of combined images is accurately secured to ensure the alignment of all components
6. Prepare finished film	6.1. Finished film and artwork are laid-down and spaced

ELEMENT	PERFORMANCE CRITERIA
and artwork for the next production stage	<p>according to specified paper size identified in job specifications</p> <p>6.2. Pages and film are pasted up to suit the given imposition</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting requirements of the brief or layout
- collecting, analysing and organising information by matching requirements for reproduction with the brief or layout
- planning and organising activities by determining sequence of processes and organising necessary materials
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, positioning of elements, exposure
- problem-solving skills by resolving issues of positioning and overlap of elements
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- printing processes affect the requirements for combining
- appropriate films used for contacting and for duplicating
- procedure for establishing basic exposure data for contact emulsions
- spreading and choking requirements for the preparation of a mask
- techniques that are used to control the degree of spread and choke
- requirements of an effective pin registration system
- main types of pin register systems and their applications
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> finished film and artwork are laid-down and spaced according to printers imposition identified in job specifications and registration of combined images is accurately secured the underlying skill of combining should be transferable across safelight and roomlight environments using various light sensitive materials, exposure and processing systems demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare and assemble TWO designated layouts, using a variety of selected image elements, following the job brief and according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of screen and line images for contacting and assembly.
<i>Capture</i> may include:	<ul style="list-style-type: none"> a variety of contacting equipment including darkroom and daylight handling.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> hand and photographic techniques.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP232C Electronically combine and assemble data

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to electronically combine and assemble data.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to produce a page layout by electronically combining existing elements.</p> <p>In a pre-press environment many individuals are required to be competent in the use of more than one page layout application.</p> <p>If this unit is to be used to assess competency with page layout applications, it should be used as a secondary unit to ICPPP224C Produce pages using a page layout application. It should be used when an additional page layout application is being assessed or taught.</p> <p>It is not be used to assess an individual on the same page layout application as ICPPP224C Produce pages using a page layout application. In other words the individual should not receive the two units of competency for the one page layout application.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare the work	1.1. Computer functions are undertaken to access the required data from electronic files 1.2. Required data is checked to ensure correct format for software application and <i>output</i> 1.3. The system is checked for the required fonts to fulfil job specifications 1.4. The storage capacity of the system is checked for sufficiency
2. Combine data	2.1. Pages are composed according to job specifications 2.2. Elements are placed in the page according to job specifications 2.3. Trapping is applied according to job specifications 2.4. The image output is prepared and appropriate colour profiles are applied according to media output
3. Create multiple images	3.1. Basic step and repeat layout is prepared according to job specifications 3.2. The appropriate software for step and repeat is accessed according to job specifications 3.3. Images are stepped according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, fit, spatial relationships between elements and colour profiles
- problem-solving skills by adjusting fit and using colour correction so that output meets requirements of the brief
- use of technology by using software correctly to ensure ease of subsequent processing

Required knowledge

- creating a page layout according to job specifications?
- function of electronic trapping of image elements as applied to image assembly
- trapping and job specification
- step and repeat layout to suit a job specification
- main criteria for evaluating the final output
- requirements of a contract proof as compared to an in-house check proof
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the page layout and overall design meet the job specifications, reproduction requirements and final end use the underlying skill of combining and assembling should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources use a desktop platform (or high-end system) with appropriate layout, design and drafting software to combine and assemble TWO jobs following the job brief and according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> • Imagesetter, laser printer, CTP, digital print.
<i>Input</i> may include:	<ul style="list-style-type: none"> • specific elements of type and/or screened images to be supplied either as hard copy or electronic files and along with layout or detailed job brief.
<i>Capture</i> may include:	<ul style="list-style-type: none"> • scanning device and/or electronic file storage.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> • appropriate software relative to image input.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • fairly simple layouts with text and colour images.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP252C Output images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to cover image output.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare an output device for outputting images. Devices may include but are not limited to plate setters, image setters and commercial digital printers. The final output will meet the job specifications and be free from errors.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the output device	<p>1.1. <i>Output</i> devices are prepared according to manufacturer's and job specifications</p> <p>1.2. All required proofs and checks are completed prior to outputting images</p>
2. Output the image	<p>2.1. The system is activated to initiate the output according to job specifications</p> <p>2.2. Print queues are managed to ensure efficient production</p> <p>2.3. The image output is evaluated to ensure it conforms to the job specifications</p> <p>2.4. The image is prepared for the next stage of the production process according to job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching the specifications of output devices and file formats to ensure output meets the job brief
- planning and organising activities by managing print queues to facilitate workflow
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by adjusting output devices so that output matches data files and the job brief
- problem-solving skills by adjusting output devices so that output matches data files and the job brief
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- the types of output devices used in pre-press
- considerations that would determine the application of these devices
- function of the calibration software
- calibrating at least TWO different output devices to ensure job specifications are achieved
- procedure for downloading a file to the output device
- main considerations to ensure accurate transfer of the file
- correct handling and material loading of the output device
- correctly identifying a processed image
- factors that control image quality through a processor
- criteria for identifying a correctly transferred file
- requirement of the image to meet job specifications
- meeting job specifications
- the criteria for evaluating a final film
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> proofing is free from errors and final output to digital printer/plotter conforms to the job specifications the underlying skills of outputting an image should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the competency be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources calibrate and use at least TWO devices to output to film, paper or plate, images captured electronically according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Output</i> may include:	<ul style="list-style-type: none"> commercial digital printers/plotters (not office laser printers), paper image setters, plate setters and all PostScript devices.
<i>Input</i> may include:	<ul style="list-style-type: none"> files from a variety of software sources.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP260C Proof images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to proof images.
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Application of the Unit

Application of the unit	This unit requires the individual to undertake a proof, which is either chemical or digital. The individual will prepare and make ready the proof for the next stage of production.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and maintain proofing equipment	<p>1.1. Proofing equipment is set up and maintained according to manufacturer's specifications and enterprise standards</p> <p>1.2. The working environment is cleaned and maintained to ensure the <i>quality</i> of the proof</p> <p>1.3. Proofing materials are used cost efficiently according to job contract costs</p>
2. Expose and process the proof	<p>2.1. The quality control of the proof is maintained according to job specifications</p> <p>2.2. Images are positioned accurately on the proof according to job specifications</p> <p>2.3. OHS requirements are observed to ensure the safe use of equipment</p> <p>2.4. The proof is prepared for presentation ready for the next stage of the process</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by using information on proofing requirements and procedures to facilitate the job
- planning and organising activities by planning the sequence of operations to facilitate efficient processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by using the densitometer
- problem-solving skills by diagnosing causes of proofing problems
- use of technology by using equipment correctly to ensure accuracy of the product

Required knowledge

- OHS issues in the proofing area
- main considerations for setting up the proofing environment
- correct exposure level for your proofing system
- actinic light requirements
- aids that can be used to control and ensure repeatability in the proofing area
- matching a proof to output requirements
- correct stock for the output device
- incorrect processing of the chemical proof
- corrective action that should be taken if incorrect processing occurs?
- main criteria for evaluation of the proof
- lighting conditions for evaluating proofs
- special requirements for PMS proofs
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • images are positioned accurately on the proof according to job specifications and the proof is ready for the next stage • the underlying skills associated with digital or chemical proofing should be transferable across a range of systems. It is important that substrates be identified along with the associated printing process that is being simulated • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare and set up the proofing area and produce digital or chemical proofs of TWO four-colour separated images according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of screened colour separated images.
<i>Capture</i> may include:	<ul style="list-style-type: none"> contact exposure equipment.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> mask cutting, registration, cleaning.
<i>Output</i> may include:	<ul style="list-style-type: none"> dedicated digital proofing devices or chemical process equipment.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP266C Produce relief plates

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make and proof relief plates from film input for letterpress or label printing.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly prepare and evaluate film, and expose and process a relief plate suitable for letterpress and label printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Produce plates	<p>1.1. The plate processor is prepared and maintained according to manufacturer's specifications and enterprise standards</p> <p>1.2. Exposure control is established and maintained utilising vacuum frames and plate processors according to job specifications</p> <p>1.3. Plates are produced that conform to job specifications</p>
2. Proof relief plates	<p>2.1. Relief plates are proofed according to job specifications</p> <p>2.2. Relief plates are proofed according to manufacturer's specifications and enterprise standards</p>

Required Skills and Knowledge

Required knowledge

- main factors to be considered when preparing to lay a plate.
- aids that can be used to ensure accuracy and repeatability
- quality control or problem-solving devices that can be included
- essential criteria for evaluating a film to be used in plate production
- testing exposure for plate making
- main considerations with a plate exposure system
- means that can be used to ensure continuity and control with plate exposure
- plate processing operation
- poor processing operation
- main criteria for evaluating a correctly prepared plate
- OHS concerns that are there when processing and proofing printing plates
- main advantages of plate proofing
- criteria for plate proof evaluation
- different requirements for plates for litho printing and relief printing
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the plate(s) meet job specifications and have been accurately proofed the underlying skills of plate production should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources use the plate making facilities to produce TWO printing plates according to job specifications and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Input</i> may include:	<ul style="list-style-type: none"> assembled film and plates to suit various press sizes.
<i>Capture</i> may include:	<ul style="list-style-type: none"> plate exposing facility.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> masking and/or multiple exposure techniques.
<i>Output</i> may include:	<ul style="list-style-type: none"> plate(s) to suit relevant printing process.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP267C Produce offset lithographic plates

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make lithographic plates from film input. For plates with electronic input see ICPPP452C Output complex images direct to plate or press
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Application of the Unit

Application of the unit	This unit requires the individual to correctly prepare, expose and process a lithographic plate. The individual will post-treat the plate to satisfy job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare plate	1.1. The job specifications are interpreted to determine the appropriate type and size of <i>plate</i> for the job 1.2. The plate is selected to deliver the <i>quality</i> of output required by the job brief 1.3. Plate is prepared to accommodate printing machine plate positioning requirements
2. Expose the plate	2.1. The work area is tidied and cleaned to ensure quality of output 2.2. Film is correctly positioned on the plate according to job specification 2.3. The correct exposure unit is selected to deliver the required output 2.4. Exposure control is correctly established utilising a quality control step wedge 2.5. Exposure and vacuum frame are maintained according to manufacturer's specifications
3. Process the plate	3.1. The plate processing unit is maintained according to manufacturer's specifications 3.2. The plate is processed according to plate manufacturer's specifications
4. Post-treat the plate	4.1. The plate is checked for quality of outcome and analysed for conformance to job specifications 4.2. Changes to the plate image are carried out correctly to ensure the standard of output required by the job brief 4.3. The plate is chemically treated and/or baked according to job specifications 4.4. The plate is prepared for storage prior to printing according to manufacturer's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching the job brief with production requirements
- planning and organising activities by preparing plates and work area for work
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating exposures and positioning of film
- problem-solving skills by recognising faults in plates and correcting
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- types of lithographic plates
- criteria for selection of plates
- advantages and disadvantages of negative and positive plates
- Plate exposure techniques and control
- images to be centred and square
- colour bars and control strips
- light sources used in plate exposing frames
- plate processing
- OHS concerns when processing printing plates
- baths and solutions used in a plate processing machine
- impact of a change in processor time on the final plate
- Plate finishing and correction
- purpose of gumming a plate
- post-exposure techniques
- criteria used to evaluate the accuracy of the plate
- dot gain issues
- difference between physical and optical dot gain
- steps to overcome dot gain
- plate punching and registration
- care to be taken to ensure accurate punching and registration
- manuals, safety and other documentation are relevant to this task, where are they kept and information is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> the plate is processed according to the plate manufacturer's specifications. Changes to the plate image are carried out correctly to deliver the standard of output required by the job brief the underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare, set up and use lithographic plate exposure and plate processing equipment to produce ONE lithographic plate manually and ONE using a machine according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment, materials and special purpose tools use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning/observation combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Plate</i> may include:	<ul style="list-style-type: none"> a variety of plates used in offset lithography
<i>Quality</i> may include:	<ul style="list-style-type: none"> client requirements and enterprise and industry standards

Unit Sector(s)

Unit sector	
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

ICPPP268C Make photopolymer plates (flexographic)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make flexographic plates from film inputs.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly select, prepare, process and finish photopolymer plates. The plate is finished to meet job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select the plate	1.1. Job specifications are interpreted to ensure appropriate <i>plate</i> selection 1.2. The correct plate is selected according to the printing requirements and job specifications
2. Pre-plan the process	2.1. Film negatives are checked for conformance with job specifications 2.2. Extra exposure masking is planned by examining the film 2.3. Appropriate exposure masks are cut 2.4. The appropriate amount of plate material is calculated to ensure economical use
3. Expose the plate	3.1. Exposure is determined by using step wedges and depth gauge to establish the correct front and back exposure time 3.2. The plate is exposed according to job specifications 3.3. The exposure unit and vacuum frame are maintained according to manufacturer's specifications
4. Develop the plate	4.1. The chemistry balance is maintained according to manufacturer's specifications 4.2. The washout unit is maintained according to manufacturer's specifications 4.3. The plate is washed out to pre-determined depth that has been pre-set by front and back exposures
5. Finish the plate	5.1. The plate is dried in a drying oven at a temperature and time according to manufacturer's specifications 5.2. The back of the plate is cleaned 5.3. The plate is post-exposed according to manufacturer's specifications 5.4. The plate is light finished according to manufacturer's specifications 5.5. OHS procedures are observed to ensure a safe working environment when making plates
6. Establish and maintain a chemical register	6.1. A chemical register is established to identify and describe the purpose of each chemical and to ensure finished plates meet set specifications 6.2. All chemicals used in the workplace are identified and registered correctly according to safe working practices

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS skills in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication skills required to convey ideas and information by interpreting the job brief
- skills needed to collect, analyse and organise information by matching the job brief with production requirements
- planning and organising skills
- teamwork skills required for maintaining the production process in association with others
- numeracy skills required to calculate exposures and positioning of film
- problem-solving skills by needed to recognise and correct faults in plates
- skills required to use technology and equipment correctly to ensure ease of subsequent processing

Required knowledge

- effect flexographic ink has on your selection of plate material
- effect the "shoulder" has on the printing process
- overcoming "orange peel effect"
- effects of chemicals used in detaching
- methods that can be used to counteract image elongation
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the plate has been correctly finished to meet the job brief and according to manufacturer's specifications the underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO flexographic plates, with different characteristics, according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment and materials special purpose tools and equipment are used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of plates</i> may include:	<ul style="list-style-type: none"> flexographic plates: includes plates using water washout.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP269C Produce photopolymer plates for pad printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make plates (cliches) from film inputs for pad printing.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly select, prepare, process and finish photopolymer plates for pad printing. The plate is finished to meet job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select the plate	1.1. Job specifications are interpreted to ensure appropriate <i>plate</i> selection 1.2. The correct plate is selected according to the printing requirements and job specifications
2. Pre-plan the process	2.1. Film positives are flattened to prevent air entrapment 2.2. Any Exposure unit is energised for one cycle to warm up the UV elements where necessary 2.3. The appropriate screen film positive is selected and checked according to the printing requirements
3. Expose the plate	3.1. Exposure is determined by using a <i>quality</i> control step wedge to establish the correct exposure time 3.2. The plate is exposed to standard/established exposure time 3.3. The plate is exposed with screen film positive according to job specifications 3.4. The exposure unit and vacuum frame are maintained according to manufacturer's specifications
4. Develop the plate	4.1. The chemistry balance is maintained according to manufacturer's specifications 4.2. The washout tools are maintained according to manufacturer's specifications 4.3. The plate is washed out for pre-determined time that has been established by manufacturer and in-house tests
5. Finish the plate	5.1. The plate is blown dry by compressed air 5.2. The plate is dried in a drying oven at a temperature and time according to manufacturer's specifications 5.3. The plate is post-exposed according to manufacturer's specifications 5.4. OHS procedures are observed to ensure a safe working environment when making plates
6. Establish and maintain a chemical register	6.1. A chemical register is established to identify and describe the purpose of each chemical and to ensure finished plates meet set specifications 6.2. All chemicals used in the work place are identified and registered correctly according to safe working practices

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching the job brief with production requirements
- planning and organising activities by interpreting the job specifications when preparing for the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating exposures and positioning of film
- problem-solving skills by recognising faults in plates and correcting
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- effect of print life requirement on your selection of plate material
- effect the screen dot has on the printing process
- OHS requirements that are there for photopolymer plate chemicals
- overcoming undercutting of screens
- methods that can be used to counteract air entrapments between film and plate
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the plate has been correctly prepared to meet the job brief and according to manufacturer's specifications the underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO photopolymer plates with different characteristics according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of plates</i> may include:	<ul style="list-style-type: none"> may include plates using both water and chemical washout.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP272C Produce gravure cylinders manually

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually make gravure cylinders.
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Application of the Unit

Application of the unit	This unit requires the individual to manually make gravure cylinders and establish and maintain a chemical register.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select the plate	1.1. The job specifications are interpreted to determine the appropriate type of cylinder base and/or shell for the job 1.2. The cylinder and/or shell is selected to deliver the quality of <i>output</i> required by the job brief
2. Pre-plan the process	2.1. The work area is tidied and cleaned to ensure <i>quality</i> of output and a safe work site 2.2. The exposure and coating equipment is maintained according to manufacturer's specifications and safety requirements 2.3. Exposure is controlled using step wedges and densitometry 2.4. The cylinder is coated according to manufacturer's specifications 2.5. The cylinder is exposed making sure image direction, autotrons and tracker lines are correctly positioned according to job specifications 2.6. OHS requirements are observed when handling chemicals
3. Expose the plate	3.1. The chemical balance is checked and maintained in the developing tank 3.2. The cylinder is developed according to manufacturer's specifications, enterprise procedures and safety requirements
4. Develop the plate	4.1. The etching bath is maintained to the correct activity level according to manufacturer's specifications and enterprise procedures 4.2. The cylinder is etched according to the job specifications (cell depth)
5. Finish the plate	5.1. A chemical register is established to identify and describe the purpose of each chemical and to ensure finished cylinders meet set specifications 5.2. All chemicals used in the workplace are identified and registered correctly according to safe working practices environment when making plates

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching the job brief with production requirements
- planning and organising activities by cleaning and preparing the work area
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating exposure and using a densitometer
- problem-solving skills by recognising cylinder faults and correcting
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- chemical names and symbols for three chemicals used in cylinder production
- standard safety procedures used when handling gravure chemicals
- two methods of manual gravure cylinder production
- cylinder balancing and how is it achieved
- preparation processes for both steel and aluminium cylinder bases
- Blue Print and how is it produced
- Direct Transfer method of cylinder production
- cell depth determination
- chemical of the etching solution
- thickness chrome coating on the etched surface
- factors that govern the rate of etch
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the cylinder is correctly and safely processed and etched to ensure a quality print the underlying skills of cylinder making should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the quality of the cylinder be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources manually produce TWO gravure cylinders and establish and maintain a chemical register according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> a variety of cylinders and shells.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Input</i> may include:	<ul style="list-style-type: none"> line and tone images.
<i>Capture</i> may include:	<ul style="list-style-type: none"> carbon tissue and direct transfer methods.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> chemical processing - conventional and post.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP281C Design basic carton

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to design cartons using and adapting existing templates.
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Application of the Unit

Application of the unit	This unit requires the individual to design a basic carton using known templates that meet job specifications and then produce an accurate example.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the requirements of the brief	1.1. All relevant information in the brief is checked, eg carton type, dimensions, material 1.2. All relevant requirements of the brief are assessed in line with enterprise specifications
2. Select and modify template	2.1. Appropriate template is selected on the CAD system 2.2. Height, width and depth and gluing flap dimensions are adjusted according to the client brief 2.3. Requirements for knife setting and stripping in production are checked and position is designed so as to have correct grain direction and to maximise use of material
3. Use plotter to cut sample	3.1. Plotter is set up ready for downloading design 3.2. Cutting and creasing depths are set 3.3. Material is positioned correctly 3.4. Plotter is operated safely according to manufacturer's specifications and enterprise procedures 3.5. Routine machine maintenance is carried out as required
4. Assemble sample	4.1. Sample is cut by hand 4.2. Cut sample is folded and glued by hand ensuring that angles and construction are correct 4.3. Originals and elements are selected, scaled and cropped appropriately to fit the grid space allocate
5. Check and adjust design	5.1. Sample is checked to ensure conformance to the client brief 5.2. Design is adjusted if necessary to meet job specifications
6. Output design	6.1. Design is saved ready for downloading to forme cutter 6.2. Design is outputted as keyline for artwork or as film as required 6.3. Relevant paperwork is completed according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by using information on carton types and templates in conjunction with the job brief
- planning and organising activities by planning the sequence of operations to facilitate processing
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating sizes, allowances, calliper of materials
- problem-solving skills by recognising and fixing sample problems
- use of technology by using equipment correctly to facilitate processing

Required knowledge

- health and safety concerns that are there when using computers and plotters
- CAD programs that are available for carton design
- correct alignment of a cut outpositioned in a design
- types of products that are the following types of cartons used for (sleeves, full flap, auto lock, crash lock, trays)
- design is appropriateness for its end use
- aspects of product sizing and tolerances that should be rechecked
- carton designs that are suitable for machine packing
- carton designs that are suitable for hand packing
- constraints on design and positioning on the forme that are caused by the requirements of knife making and production
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the sample carton accurately meets the job and client specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO different carton designs and samples using existing templates to meet job brief according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Design tools</i> may include:	<ul style="list-style-type: none"> appropriate CAD programs, plotters.
<i>Types of design</i> may include:	<ul style="list-style-type: none"> full range of cartons including sleeves, tucks, full flap, auto lock, crash lock, trays for which there are existing templates on the CAD system.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP283C Prepare artwork for screen printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to apply fundamental principles when combining elements and colour and selecting appropriate type for manual and electronic design artwork.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare artwork for screen printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the requirements of the brief	1.1. The printing requirements of the layout <i>brief</i> are determined for printing feasibility 1.2. The brief is broken down into stages of production in order to determine a plan of procedure 1.3. A plan of action is determined to meet the time requirements of each stage so that deadlines are identified and adhered to 1.4. Correct design and typographic terms are used to facilitate communication
2. Assemble layout materials	2.1. Client copy and images are assembled to conform to the client brief 2.2. Library files are accessed for relevant data to conform to the brief 2.3. Appropriate equipment and materials to complete the layout are assembled to enable the brief to be undertaken efficiently
3. Construct a simple graphic design	3.1. Client requirements are checked to ensure the design concept matches the brief 3.2. Preliminary graphic design ideas are sketched according to the brief 3.3. A simple graphic design concept is rendered electronically or manually to conform to the brief 3.4. The rendered graphic design is checked for conformance to the brief
4. Produce finished artwork	4.1. A layout grid is ruled up according to the brief 4.2. Type selection, style and size are selected for the theme and readability and are fitted into the grid space allocated to conform to the brief 4.3. <i>Originals</i> and <i>elements</i> are selected, scaled and cropped appropriately to fit the grid space allocated 4.4. The components of the layout are positioned accurately using keylines to conform to the grid framework 4.5. Overlays/colour roughs are created to conform to the brief
5. Check for suitability	5.1. The layout is checked to eliminate omissions and errors 5.2. The layout design is checked for conformance to the brief

ELEMENT	PERFORMANCE CRITERIA
	5.3. <i>Proofs</i> are produced for hard copy checking 5.4. The layout is rendered ready to present to the client
6. Tidy materials and store data	6.1. Equipment and materials are returned to storage according to enterprise procedures 6.2. Design data and materials are filed ready for future retrieval according to enterprise procedures 6.3. The design area is cleaned to enterprise procedures ready for re-use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by using correct terms to facilitate communication according to industry standards
- collecting, analysing and organising information by producing and collecting elements according to the initial conceptual ideas
- planning and organising activities by sequencing stages of the artwork to produce a design flow
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by working within the layout constraints to the specifications of the brief
- problem-solving skills by initiating quality checks against the brief as an ongoing process
- use of technology by using the relevant equipment to produce artwork for screen printing

Required knowledge

- considerations that are given to the layout
- first stage of the production brief
- function that would take up the most time
- what does a thumbnail describe?
- importance that would you place on detail in the first stage of the brief
- type of equipment that may be used for the construction of the layout
- name of the guides used in the design area
- requirements that would be included in the brief
- number of graphic design ideas are sketched or illustrated as preliminary ideas
- additional constraints that can be included in the concept
- purpose of ruling up a layout
- limitations that are there with type selection on the chosen substrates
- considerations that are given to elements to fit a given space
- use of keylines when used as element identification
- importance of identifying all colour(s) on the rough
- techniques that are used to check for mistakes
- checks of a proof that are made to conform to the brief
- condition that materials should be stored
- system of storage that is used for electronic data

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• materials that could be recycled |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • applying design principles when combining elements and colour to prepare artwork, both manually and electronically, to the satisfaction of the client • demonstrate an ability to find and use information relevant to the task from a variety of information sources • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to appropriate equipment and materials.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Brief</i> may include:	<ul style="list-style-type: none"> • job specifications, work ticket.
<i>Original</i> may include:	<ul style="list-style-type: none"> • line graphic or text.
<i>Elements</i> may include:	<ul style="list-style-type: none"> • text, headings, rules, pictures, graphics, tints, vignettes components and shapes.
<i>Proofs</i> may include:	<ul style="list-style-type: none"> • a printed sheet produced by electronic or manual means that represent the final product.
<i>Substrates</i> may include:	<ul style="list-style-type: none"> • print medium that will hold an image.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP284B Produce PDF files for online or screen display

Modification History

Release	Comments
Release 1	<p>This Unit first released with <i>ICP10 Printing and Graphic Arts Training Package</i> version 2.0.</p> <p>Typographical error corrected in performance criterion 6.3.</p> <p>Replaces ICPPPP284A Produce PDF files for online or screen display.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to produce both passive and interactive PDF files for online or screen display.

Application of the Unit

This unit applies to individuals who produce both passive and interactive PDF files for use online or screen display. Individuals will generally work within defined procedures. Individuals will respond to clearly defined briefs and work under limited supervision.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit of competency.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Prepare file	<p>1.1 Use of <i>document</i> is identified according to specifications of the brief</p> <p>1.2 Purpose and audience are established and cultural, equity or gender requirements determined from the brief or client</p> <p>1.3 Changes required in media size and format are chosen from predefined settings</p> <p>1.4 Relevant fonts for online readability are selected, text is formatted, chunked and article threads added as required for online ease of reading</p> <p>1.5 Navigation plan or display timing is developed and required <i>elements</i> or areas allocated on document</p> <p>1.6 Document is checked to ensure correct layout <i>file</i> and there are no non-printable elements</p> <p>1.7 Unnecessary elements and blank pages are deleted, if not required</p> <p>1.8 Document is proofed for colour, positioning, bleed allowance, gramma and text</p>
2. Create PDF	<p>2.1 The <i>final media</i> of the file is identified and correct Distiller preset job options and colour management settings are chosen</p> <p>2.2 Document is opened and exported to PDF or postscript file for conversion in Distiller</p> <p>2.3 PDF file is exported to correct folder, opened and checked against requirements of the brief</p>
3. Edit file	<p>3.1 Text corrections are made using the text touch-up tool as required</p> <p>3.2 Images are edited using the touch-up object tool as required</p> <p>3.3 Page orientation is changed, pages inserted and deleted as required</p> <p>3.4 Bookmarks are added and named or edited with magnification added as required</p>
4. Perform navigation	<p>4.1 Menus are created for major themes with buttons and graphics consistently placed and easily identifiable to the user</p> <p>4.2 Internal and external links with actions are added according to the requirements of the brief</p> <p>4.3 Navigation is consistent and traceable to ensure maximum</p>

	<p>usability and user confidence</p> <p>4.4 Users are given more than one navigational option for moving through the document</p>
5. Perform file management	<p>5.1 Fonts and graphics are embedded where possible for greater portability</p> <p>5.2 All additional files are saved in the correct folder and in appropriate format</p> <p>5.3 All unused element or pages are removed to reduce size</p>
6. Display settings	<p>6.1 Screen display preferences are set as required to suit brief</p> <p>6.2 Magnification is set for consistency of display</p> <p>6.3 Page transitions are applied as desired to suit brief</p> <p>6.4 Actions and preferences for multimedia elements are applied to suit final media</p>
7. Finalise the document	<p>7.1 Final file is saved to correct folder and opened to check for correct screen display and magnification</p> <p>7.2 All links, bookmarks and actions are tested for correct operation</p> <p>7.3 Navigation is assessed for intuitive usability</p> <p>7.4 Document is tested in a range of environments and platforms for consistency and predictable display</p> <p>7.5 File naming conventions are logical and comparable for cross-platform use</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication and literacy skills for expressing ideas and information, reformatting text and adding article threads as required for final media
- planning, organising and analytical skills for setting preferences, document summaries and search index options according to the requirements of the brief
- teamwork skills for maintaining the production process in association with others
- numeracy skills for settings paper size and format
- problem-solving skills for rotating, deleting and inserting pages as required by the brief
- technical skills for computer operation and producing interactive PDF files.

Required knowledge

- file type and use
- page sizes and formats for online print
- use of different fonts on online document
- reformatting text in an online document
- OHS standards that relate to working for long periods on computers
- various document types.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> produce both passive and interactive online and screen display PDF files locate and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment hardware and software use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate when producing a passive and interactive PDF file.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Documents</i> may include:	<ul style="list-style-type: none"> • stand alone document • software e-book reading device • online documents.
<i>Elements</i> may include:	<ul style="list-style-type: none"> • file management • images • tables and other non-text items.
<i>File</i> may include:	<ul style="list-style-type: none"> • tagged image file format (TIFF) • encapsulated postscript (EPS) • joint photographic expert group (JPEG) • rich text format (RTF) • portable network graphics (PNG).
<i>Final media</i> may include:	<ul style="list-style-type: none"> • e-books • websites • hard copy • online documents.
<i>Screen display</i> may include:	<ul style="list-style-type: none"> • passive • interactive.
<i>Actions</i> may include:	<ul style="list-style-type: none"> • movies • sound clips • menu commands.

Unit Sector(s)

Pre-press

ICPPP285A Scan a mono image

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to prepare line or tone copy, set up a scanner to reproduce the image to meet the technical specifications suitable for print media production.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who prepare the subject to be scanned and set up the scanner to ensure that the <i>image output</i> will be of a standard to meet the technical standards required for the technical specifications of the job and print media requirements.</p> <p>Individuals will generally work under supervision and within defined procedures.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare line and/or tone original for scanning	1.1. The line or tone image/copy is scaled to conform to production specifications or <i>quality standards</i> 1.2. The quality of the line or tone <i>image input</i> is assessed to determine scanner settings 1.3. The line or tone image is prepared for mounting to <i>scanner</i> ready for scanning
2. Prepare scanner	2.1. The scanner is selected and set correctly for the mono image to be scanned 2.2. Appropriate <i>software</i> is selected for scanning line and/or tone images
3. Scan image	3.1. The original image is scanned for reproduction 3.2. The quality of the scanned image is checked against the job/ design specifications and the printing reproduction requirements 3.3. Appropriate software is applied to scan and process the image 3.4. Image is checked for compliance with design specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for applying correct ergonomics when operating in a computer environment
- analytical skills for interpreting the appropriate scanning parameters for the job specifications
- problem-solving skills for determining scanners and specifications to meet output requirements
- teamwork skills for maintaining the production process in association with others
- technical skills for setting up the scanner to suit various printing processes or electronic media

Required knowledge

- characteristics of a line or tone image
- printing processes and the type of substrates used for printing processes
- OHS issues associated with scanner/computer operations
- scanner resolution
- correct controls for scanner operation
- hardware requirement for line and tone scanning
- computer software requirement for line and tone scanning
- scanners and specifications
- software requirements and specifications to process and output the image
- sources of information and other documentation related to safety and scanner operation
- correct storing of manuals and documentation
- correct use of hardware and software
- reproduction matching requirements to resolution factors and job brief

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- determine the capability of scanner hardware and software to meet reproduction requirements for print media
- scan images to meet requirements and which are transferrable across design, pre-press and print sectors
- use of information relevant to the task from a variety of information sources
- use a flat-bed or drum scanner and reproduce three examples of line and tone reproductions with supporting comments on set-up criteria and job specifications.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical of the ambient conditions found in the prepress workplace
- access to relevant facilities, equipment and materials for the reproduction and production of images to suit the needs of the print media processes
- evidence of scanner system maintenance procedures
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning in relation to the operating specifications of scanners suitable for print media applications
- third party input and workplace reports of candidate performance
- practical demonstration by the candidate when scanning and processing the image.

Guidance information for

Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended. For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> enterprise and industry standards
<i>Image input</i> may include:	<ul style="list-style-type: none"> a variety of originals or copy with high contrast line or continuous tone characteristics
<i>Scanner</i> may include:	<ul style="list-style-type: none"> flat-bed drum scanner
<i>Software</i> may include:	<ul style="list-style-type: none"> appropriate software relative to image input and quality output device

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP286A Scan images for reproduction

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to scan line images.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who prepare a line copy or original for scanning, set up the scanner and ensure the quality of the scanned image meets the technical specifications of the job and final media requirements.</p> <p>The individual will work under limited supervision and with defined procedures.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare line image for scanning	1.1. The <i>line image</i> for scanning is scaled to conform to production specifications 1.2. The quality of the line image for scanning is assessed to determine <i>scanner</i> settings 1.3. The line image is cleaned and mounted ready for scanning
2. Prepare scanner	2.1. The scanner is set correctly for the line images to be scanned 2.2. Appropriate <i>software</i> is selected for scanning and processing line images 2.3. Adjustments are made to ensure <i>quality</i> of scanned image
3. Scan and check image	3.1. Appropriate software is applied to scan and process line images 3.2. The original line image is scanned for reproduction according to the design specifications 3.3. The quality of the scanned image is checked against the job specifications and the printing or reproduction requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication and literacy skills for expressing ideas and information and interpreting the job brief
- planning, analysing and organising skills for matching reproduction requirements, resolution factors and preparing the line image for scanning
- teamwork skills for maintaining the production process in association with others
- numeracy skills for calculating enlargement/reduction factors and resolution
- problem-solving skills for scaling the line image to conform to production specifications
- technical skills for using appropriate software and hardware correctly to ensure ease of subsequent processing

Required knowledge

- relevant printing processes and electronic media
- scanning requirements
- characteristics of a line original
- factors that determine line scanning resolution
- controls that exist within the software for line scanning
- essential hardware specifications for line scanning
- software requirements for line scanning
- specific software requirements to process and output the image
- manuals, safety and other documentation that are relevant to this task, where they are kept and information included in these documents
- OHS concerns when operating a scanner
- OHS standards that relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> ensure the quality of the scanned image meets specified quality standards and final media requirements ensure the underlying skill of scanning images are transferable across the design and pre-press sectors identify the substrate for reproduction and ensure that the quality of the scanned image is suitable for the identified printing processes locate and use information relevant to the task from a variety of information sources use a desktop flat-bed scanner and reproduce three line originals.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace that special purpose tools, equipment and industry software packages are available and used where appropriate use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate when scanning an image to technical specifications.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent</p>

EVIDENCE GUIDE

performance.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Line image</i> may include:	<ul style="list-style-type: none"> • a variety of high contrast line artwork or copy.
<i>Scanner</i> may include:	<ul style="list-style-type: none"> • flat-bed • drum scanners with medium to high-end full colour capabilities.
<i>Software</i> may include:	<ul style="list-style-type: none"> • appropriate software relative to image input quality and output device • any proprietary industry standard software • industry standard software that is bundled with high-end scanners • third party products, such as: <ul style="list-style-type: none"> • SilverFast • VueScan.
<i>Quality</i> may include:	<ul style="list-style-type: none"> • enterprise and industry standards.

Unit Sector(s)

Unit sector

Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP311C Develop a detailed design concept

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop a complex graphic design
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Application of the Unit

Application of the unit	<p>The unit applies to operators taking some responsibility for a design brief.</p> <p>This unit outlines the skills required to render a graphic design based on the design brief and to produce a finished complex artwork.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP211C Develop a basic design concept.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine brief specifications	1.1. Communicate with the client to confirm the requirements of the brief as required 1.2. <i>Job details</i> are accurately documented according to <i>enterprise policies and procedures</i>
2. Render a graphic design	2.1. The client's requirements are translated into a design concept that accords with the brief 2.2. Different graphic design ideas/concepts are detailed and the potential of each is assessed according to the brief 2.3. A unique graphic design concept is rendered electronically or manually to conform to the brief 2.4. The rendered graphic design is assessed for printing feasibility according to the requirements of the brief 2.5. A visual is produced showing position and fit of design elements to document the design layout
3. Produce a dummy	3.1. A range of visual interpretations of the brief are made to present options to the client 3.2. Text and <i>images</i> are graphically presented to conform to the grid layout 3.3. Basic imposition is calculated to suit printing and binding <i>processes</i> 3.4. A dummy is produced for marking-up copy and to obtain client feedback about the suitability of design
4. Produce complex finished artwork	4.1. A design concept is structured step by step to conform to the brief and to fit a grid format 4.2. Appropriate type styles are selected to conform to the client brief and the printing substrate 4.3. Line reproduction <i>quality</i> is assessed to effect the standard of print reproduction required by the client brief 4.4. Images are selected to conform to the client brief and the end use 4.5. Colours are selected and combined effectively using overlays to conform to the client brief and the end use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by determining exactly what the client wants from brief and subsequent discussion
- collecting, analysing and organising information by producing and collecting elements according to the initial conceptual ideas
- planning and organising activities by coordinating job sequence so that materials arrive, are processed and can be checked efficiently
- teamwork when ensuring that designers, printers and clients all know what they need to do and when
- mathematical ideas and techniques by calculating costs and enlargement/reduction factors
- problem-solving skills by coping with discrepancies between the brief and what is possible
- use of technology by using appropriate software to create the design and ensuring files are saved in the required format

Required knowledge

- parameters of the job for which this artwork is being prepared
- instruments, materials and computer equipment that will be used in producing this artwork?
- colour used for effect and harmony
- colour composition of white light
- colour wheel elements and the use of the Pantone Matching System
- effect of the selection of a print or electronic output system on the preparation of artwork
- making or revising a layout
- basic design principles that are used in the preparation of layouts
- formatting, size, style and preparation of artwork when using computer equipment for layouts/colour roughs
- a CAD program and its aid in the work of a designer
- OHS concerns that are there when using cameras or computers
- production of bromides using a process camera and contact frame
- describe the diffusion transfer process for producing bromides
- operation of mono laser printers and resolution output
- proportional enlargement and reduction calculations
- process of drawing line, borders and corners using drawing instruments or a

REQUIRED SKILLS AND KNOWLEDGE

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| <p>computer or digitiser</p> <ul style="list-style-type: none">• faults on artwork supplied by the client• effect of colour breakdown and sequence on printing operations and printed jobs• method used for checking size and scale of reproduction• matching artwork to customer's specifications as outlined on the job sheet• methods that do you use for assessing the quality and suitability of externally produced artwork• problems that can be caused by using sub-standard and unsuitable artwork |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> client requirements are accurately reflected in the design concept. The final design combines type, lines, tones, colours and images in a manner that meets the design brief and reproduction requirements the underlying skill of designing a detailed layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare TWO sets of design, colour roughs and finished artwork which incorporate line and tone work according to specifications of the client brief, enterprise standards and listed performance criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job details</i> may include:	<ul style="list-style-type: none"> include the number of colours, the media of the final product, the purpose of the design, materials.
<i>Enterprise policies and procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Images</i> may include:	<ul style="list-style-type: none"> photographs, illustrations, format graphics, text.
<i>Complexity of process</i> may include:	<ul style="list-style-type: none"> artwork is complex and may involve numerous elements.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP321C Produce a typographic image

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to typeset text in various sizes and shapes and images.
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Application of the Unit

Application of the unit	This unit requires an individual to develop typographic images which are positioned correctly and proofed for errors. The typographic image would be produced under limited supervision.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP221C Select and apply type.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and evaluate typography	1.1.Typeface, type-size, letter and word, and line spacing are selected according to the design setting requirements 1.2.Typeface and type-size are evaluated for their suitability to retain the required characteristics through the set of reproduction stages according to the design brief and printing process
2. Position images	2.1.Images are positioned accurately according to the design specifications 2.2.The overall balance and emphasis of composition conform to the brief
3. Produce and proof type	3.1.Type is produced either on the keyboard from copy using the appropriate layout and design and typesetting technology or by transferring information from the electronic medium into the typesetting program 3.2.Typographic <i>quality</i> is checked and adjusted to meet job specifications 3.3.Proof reading is carried out to ensure the typesetting meets job specifications 3.4.Proofs are marked up with correct proof reading marks and corrected
4. Assess text for punctuation and grammar	4.1.Text is read and errors in grammar, punctuation and word-breaks are identified 4.2.Errors and omissions are corrected in consultation with the <i>client</i>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the brief to ensure that product matches implicit and explicit requirements
- collecting, analysing and organising information by matching information on font sizes and layouts with requirements of the brief
- planning and organising activities by evaluating type suitability for the reproduction stages
- teamwork when correcting errors in consultation with the client
- mathematical ideas and techniques by calculating fit, sizes and enlargement factors and costs
- problem-solving skills by adjusting fit and fonts to ensure a best possible result for client within restraints of production
- use of technology by using appropriate software correctly to ensure ease of subsequent processing

Required knowledge

- choice of typeface selected for this job influenced by the printing process or electronic medium influence on the choice of typeface selected
- type face design suited to the topic of the job
- appropriate number of characters generally accepted in a line of text type
- relationship between point size and column width
- viewing distance of the final product has an effect on point size selection
- kerning use and why
- considerations that must be made when selecting a type face to be used on a particular product
- ten proof reading marks and the meaning of each
- three different ways of writing "there" and their used
- uses of the apostrophe and how are apostrophes often misused
- manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • typeface, size, letter, word and spacing all meet design specifications and substrate, reproduction and end use requirements. Overall composition meets the design brief • the underlying skill of applying typographic principles to setting and proofing copy and design should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • use manual or electronic equipment and suitable software to select, set, arrange, evaluate and modify type in TWO different design briefs according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose tools, equipment and industry software packages for producing typographic images will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Clients</i> may include:	<ul style="list-style-type: none"> internal or external clients.
<i>Input</i> may include:	<ul style="list-style-type: none"> producing and proofing type may involve hard copy or captured key strokes.
<i>Application</i> may include:	<ul style="list-style-type: none"> design can be specific to publishing, consultancy, advertising or packaging in either hard copy or electronic media.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> routine typesetting with text in various sizes and shapes and images.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP322C Digitise images for reproduction

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to scan images, including line-art, greyscale and colour originals.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the preparation of copy, calibration of the scanner and the production of scanned images that meet the technical specifications of the job.</p> <p>Individuals will work under limited supervision and with defined procedures.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Mount original copy	1.1. The <i>original image</i> is scaled and identified according to job specifications 1.2. Work surfaces are cleaned and prepared to ensure the images are dust free 1.3. The original image is mounted according to enterprise procedures 1.4. Occupational health and safety (OHS) issues are identified and correct practices are used if any solvents are applied
2. Set up scanner	2.1. The <i>scanner</i> is set up and calibrated according to specifications 2.2. Data from copy evaluation and aim points to suit the original are entered correctly onto the scanner according to specifications 2.3. The <i>scanner software</i> or plug-in is selected
3. Produce images	3.1. The medium being scanned is selected according to job specifications 3.2. The disk capacity is checked where appropriate to ensure sufficiency for the job 3.3. The processor is set and checked according to job specifications 3.4. Images are scanned as required according to job specifications 3.5. The scanned images are checked for conformance to the technical specifications of the job and scan adjustments made if necessary

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS skills for using correct ergonomics when operating the computer
- communication and literacy skill for interpreting implicit and explicit requirements of the job brief
- planning, analytical and organising skills for matching requirements for reproduction (colour profiles and resolution) with the job brief and ensuring all materials are delivered
- teamwork skills for maintaining the production process in association with others
- numeracy skills for calculating resolution and enlargement/reduction factors
- problem-solving skills for matching needs of the client with constraints of production
- technical skills for using software and hardware correctly to ensure ease of subsequent processing

Required knowledge

- scanner settings for various printing processes or electronic media
- scanner calibration
- primary colours and colour mixing principles
- variables that influence the colour separation requirements
- importance of tone gradation and grey balance
- necessity to apply colour correction
- factors that influence the selection of screen ruling and dot percentage
- impact output resolution has on final screen ruling
- OHS standards as they relate to operating a scanner
- manuals, safety and other documentation that are relevant to the task, where they are kept and the information included in these documents
- availability of other sources of information
- OHS standards that relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- scan images that meet specified quality and technical standards for reproduction and final end use
- find and use information relevant to the task from a variety of information sources
- use a medium to high-end full colour digital device to reproduce one line-art, one greyscale, one colour transparency (positive), one colour reflective, one negative and one re-screen.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for digital printing and image scanning
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate in scanning images that meet the technical specifications of the job.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Original images</i> may include:	<ul style="list-style-type: none"> • line-art • transparencies (positive and negative) • reflection and re-screens for mono • red, blue, green (RGB) • cyan, magenta, yellow, black (CMYK).
<i>Scanners</i> may include:	<ul style="list-style-type: none"> • flat-bed • drum scanners with medium to high-end full colour capabilities.
<i>Scanner software</i> may include:	<ul style="list-style-type: none"> • any proprietary • industry standard software that is bundled with high-end scanners • third party products, such as: <ul style="list-style-type: none"> • SilverFast • VueScan.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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ICPPP323C Photograph and produce halftone images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to undertake advanced graphic arts camera work.</p> <p>The skill is used in the industry but is becoming obsolete and should probably not be part of entry level training.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the individual to prepare the copy and equipment to photograph halftone images. The halftone image is evaluated to ensure it meets design and production quality standards.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate copy	1.1. Copy is scaled and gradation <i>aim points</i> are selected to produce the required <i>output</i> 1.2. Screen rulings, angles, tone gradation, dot percentages, and dot shapes are selected according to job specifications 1.3. Rescreens and mono conversions from colour originals are evaluated for reproduction requirements
2. Prepare for exposure	2.1. The camera is cleaned and prepared and lights are set to deliver an even distribution of light 2.2. Exposure program is set according to stock and print conditions 2.3. Densities are measured on the copy according to evaluation 2.4. Exposure programs for special effects and duotones are calculated to deliver job requirements
3. Process and evaluate image	3.1. The processor is checked and maintained within tolerances 3.2. Film is <i>processed</i> according to job specifications 3.3. The image is checked for size, gradation, cleanliness and dot percentages according to job specifications
4. Solve technical photographic problems	4.1. Technical problems relevant to tone and reproduction of photographic images are resolved by reassessing the elements for photography, camera operations or amendment of the brief in consultation with the client 4.2. Images are photographed with the potential to be reproduced in conformance to specifications of the brief

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by matching production requirements and constraints with requirements of the job brief
- planning and organising activities by ensuring all necessary materials are delivered in correct format
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, exposures and grey scales
- problem-solving skills by adjusting exposure and grey scales so that output matches requirements of the job brief
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- halftone images varied to suit different printing processes
- main characteristics of a halftone image
- factors that would influence selection of highlight and shadow points (first and last printing tones)
- overcoming the problem associated with the reproduction of screened copy
- method of calibrating the densitometer and copy measurement
- factors that influence basic exposure data
- preparing a basic exposure program
- applying exposure data to selected copy
- factors that could cause a change of exposure
- using a grey scale to assist in exposure control
- criteria for evaluation of the halftone image
- effect a change to processing conditions may have on the final result
- image requirements for the various printing processes
- criteria for evaluation of a duotone
- manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> special effects and duotones meet job specifications. The image size, gradation, cleanliness and dot percentages meet technical specifications. Photographed images are suitable for final media reproductions the underlying skill of photographing images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the photographed image be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources use a graphic arts camera to photograph and process at least THREE continuous tone originals with different contrast characteristics according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment camera and other equipment required to produce a halftone image.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Aim points</i> may include:	<ul style="list-style-type: none"> • highlights • shadows • midtones.
<i>Output</i> may include:	<ul style="list-style-type: none"> • diffusion transfer, rapid access.
<i>Camera process type</i> may include:	<ul style="list-style-type: none"> • vertical • horizontal.
<i>Input</i> may include:	<ul style="list-style-type: none"> • a variety of continuous tone originals.
<i>Capture</i> may include:	<ul style="list-style-type: none"> • a variety of graphic arts cameras.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> • masking to crop or deep etch, drop highlights out.
<i>Quality standard</i> may include:	<ul style="list-style-type: none"> • must meet client and industry requirements.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP324C Create pages using a page layout application

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to compose pages based on a client design brief using a high-end application.
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Application of the Unit

Application of the unit	For this unit the knowledge and skills cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specific problems. This will be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP224C Produce pages using a page layout application.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm client design brief	1.1. Details of the client design brief are reviewed and clarified with client or supervisor 1.2. The type of document is determined and production requirements are assessed 1.3. Client copy and images are assembled to conform to the design brief 1.4. Library files are accessed for relevant data to conform to the design brief
2. Set up document	2.1. A master page for multiple pages and with multiple columns is set up 2.2. Required text is prepared and formatted and appropriate fonts and size are selected 2.3. Master pages, templates and style sheets, as appropriate, are used consistently to ensure data is the same after exchange or transfer 2.4. Text boxes and columns are correctly linked for text flow and chapter heading hierarchies are selected 2.5. Colour palettes are set up according to the design brief 2.6. Document set up is completed to conform to requirements of the final media and design brief
3. Arrange elements on page	3.1. Imported text or data from other applications is correctly formatted and any cross-application formatting issues are resolved 3.2. Elements are created and arranged on page to conform to the design brief 3.3. Graphics and other elements are imported from other applications and correctly formatted and arranged 3.4. Elements are arranged in layers according to the design brief
4. Finalise artwork	4.1. Pages and combined elements are composed correctly to suit specified sheet size 4.2. Numerical sequence and laydown of the product or mock-up is correctly identified to meet binding and finishing requirements 4.3. A bleed allowance is incorporated in margins and borders
5. Check quality	5.1. Text is reviewed for possible errors and omissions and errors are discussed with the client or supervisor

ELEMENT	PERFORMANCE CRITERIA
	<p>5.2. Overall balance of the <i>layout</i> and correct colour blends and gradients are maintained in the arrangement of the elements</p> <p>5.3. Completed file is sent to be ripped</p> <p>5.4. A proof is created and rechecked for errors, omissions and the overall balance of the layout</p> <p>5.5. Necessary changes are made, reviewed on screen and reproofed as required</p> <p>5.6. The job is saved according to <i>enterprise procedures</i></p> <p>5.7. A digital proof or PDF is created to present to client</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by clarifying information with the client or supervisor
- collecting, analysing and organising information by selecting library files for relevant data to conform to the design brief
- planning and organising activities by developing the numerical sequence and laydown of the product
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by identifying the numerical sequence and laydown of the product
- problem-solving skills by imposing pages and combined elements to correctly suit specified sheet size
- use of technology by using hardware and software applications

Required knowledge

- trapping during the design phase
- colour qualities and behaviour for trapping
- different qualities of TIFF and EPS and the use
- distinguishing unmarked colours
- principles of additive and subtractive colour mixing
- considerations given to the printing process during the design phase
- kinds of problems that can occur if the printing process isn't considered during the design stage
- media size consideration during imposition
- planning for multiple colours and graphics during imposition
- computer type verses print type
- the importance of type to the overall design
- factors that you need to consider to ensure overall readability
- importance of design and layout arranging artwork
- typography use in design
- purposeful design
- market segmentation
- understanding the target audience
- factors that you need to consider when targeting equity groups
- creating and saving templates

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• creating style guides and sheets |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • composing a page incorporating elements and features that meets the client's design brief and is print ready • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare THREE different sets of page layouts according to the listed Performance Criteria • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • page layout applications such as InDesign PageMaker, QuarkXPress, will be required for assessment of this unit of competency. New software applications and new versions of existing products enter the market regularly and therefore this example group will change.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Library files</i> may include:	<ul style="list-style-type: none"> bullets, borders, buttons, images, clip art.
<i>Document set up</i> may include:	<ul style="list-style-type: none"> margins, page size, page orientation, multiple pages, multiple columns, arrangement of pages.
<i>Final media</i> may include:	<ul style="list-style-type: none"> printed material, Internet, CD Rom.
<i>Elements</i> may include:	<ul style="list-style-type: none"> graphics, frames, menus or dialogue boxes, indexes.
<i>High-end page layout applications</i> may include:	<ul style="list-style-type: none"> Adobe InDesign, Adobe PageMaker, QuarkXPress, Corel Ventura, Adobe FrameMaker. New software applications and new versions of existing products enter the market regularly and therefore this example group will change.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> enterprise procedures for saving a document can include the preferred format, naming preferences and the location the file is saved to.
<i>Imposed</i> may include:	<ul style="list-style-type: none"> plug-ins, stand alone applications or automated features of high-end page layout programs exist to impose pages.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP325C Create graphics using a graphics application

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop graphics incorporating a range of features for cross-media publishing based on a client brief using a high-end application.
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Application of the Unit

Application of the unit	For this unit the knowledge and skills cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specific problems. This will be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Balance image quality and file size	1.1. Graphics files are opened and design brief requirements are confirmed 1.2. Graphics are repeated efficiently using a symbol or stamp to reduce file size 1.3. Slices are created from <i>objects</i> , layers or groups and updated as required 1.4. Type anti-aliasing is applied selectively to keep small text easy to read 1.5. <i>Tasks</i> are automated wherever possible and where necessary scripts are used for automation
2. Manipulate objects	2.1. Objects and text are <i>manipulated</i> and <i>edited</i> as required 2.2. <i>Elements</i> are defined for repetition, repetition tools are used to create duplicates and then are manipulated as a group 2.3. Complex shapes are created by combining shapes into compounds and if required compounds are edited
3. Import images	3.1. Bitmap images are embedded and/or linked in the file 3.2. Placed Bitmaps are modified and/or duplicated depending on design requirements 3.3. Bitmaps are masked and/or an opacity mask is added 3.4. Layered file is exported to image editing program for editing
4. Develop variable templates	4.1. Based on the design brief, objects are defined within the template as variables 4.2. An automated script or an image server is used to ensure variations, using data stored in any ODBC-compliant source 4.3. The template variables are tested to ensure correct operation
5. Colour separate artwork	5.1. The correct <i>format</i> for the <i>colour separation</i> is determined by the requirements of the pre-press workflow system 5.2. <i>Command preferences</i> are set to correct preferences for print quality and process 5.3. Based on printer feedback the colour separation options are set according to print requirements of the

ELEMENT	PERFORMANCE CRITERIA
	<p>design brief</p> <p>5.4. Process and spot <i>colours</i> are combined if required</p> <p>5.5. A screen frequency value appropriate for the print quality is selected and colour separation preferences are saved</p> <p>5.6. Spreads and chokes traps are created to avoid mis-registration</p> <p>5.7. The overlapping and overprint of objects are defined</p> <p>5.8. A proof is created and the separations checked, any required editing is completed and the file is saved</p>
6. Prepare for final media	<p>6.1. Metadata tags are embedded to catalogue, organise and retrieve artwork</p> <p>6.2. For cross-media publishing purposes web-safe colours are selected</p> <p>6.3. File formats are chosen to best represent artwork styles</p> <p>6.4. Objects are linked to create an image map that meets design requirements</p> <p>6.5. Objects are layered to create animation frames and exported for animation set up</p> <p>6.6. Compression options are selected that keep the image quality high and the file size low</p> <p>6.7. Export options are set to the best settings for the final media and the file is saved and exported</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by embedding metadata tags
- collecting, analysing and organising information by linking objects to create an image map that meets design requirements
- planning and organising activities by automating tasks wherever possible and using scripts for automation
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by selecting a screen frequency value appropriate for the print quality
- problem-solving skills by creating complex shapes and editing them
- use of technology by creating graphics using a graphics application

Required knowledge

- image formats (SWF, SVG, GIF, JPEG, PNG)
- JavaScript, AppleScript or Microsoft Visual Basic
- text and formatting
- drawing shapes
- manipulating images
- design principles
- profiles
- colour management

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • developing graphics incorporating a range of features for cross-media publishing based on a client brief using a high-end application • demonstrate an ability to find and use information relevant to the task from a variety of information sources • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • relevant hardware and software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Objects may include:	<ul style="list-style-type: none"> predefined shapes, drawn objects, curved segments, lines.
Tasks may include:	<ul style="list-style-type: none"> batch processing and creating variations of similar designs.
Manipulated may include:	<ul style="list-style-type: none"> bend, stretch, twist, warping, liquefy.
Edited may include:	<ul style="list-style-type: none"> transparency, gradients, strokes, custom colours using CMYK sliders.
Elements may include:	<ul style="list-style-type: none"> layers, fine lines, blending, feathering.
Formatting may include:	<ul style="list-style-type: none"> font, leading, paragraph alignment, character size, columns of type, text flow.
Colour separation options may include:	<ul style="list-style-type: none"> process colour, spot colour, halftone, resolution, bleed, printer marks.
Command preferences may include:	<ul style="list-style-type: none"> RGB, CMYK, colour management, proof options, Document Information subjects.
Colours may include:	<ul style="list-style-type: none"> CMYK colours spot colours Registration colours PMS.
High-end application may include:	<ul style="list-style-type: none"> Adobe Illustrator CorelDRAW freehand.
Appearance attributes may include:	<ul style="list-style-type: none"> fills, strokes, effects, blending modes, transparency.
Properties may include:	<ul style="list-style-type: none"> are appearance attributes such as above.
Effects may include:	<ul style="list-style-type: none"> glows, textures, opacity, blur.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP331C Manually combine complex four-colour images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake advanced manual combining of colour images.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare images and equipment and to combine elements, separate colours and prepare registration and complex artwork for the next production stage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan the combining strategy and prepare the work	1.1. Job components are gathered and checked according to job specifications 1.2. Dot shapes and percentages are checked according to job specifications 1.3. The correct masking technique is used to combine the job economically 1.4. Screen rulings and angles are checked according to job specifications 1.5. Spotting techniques are performed accurately to achieve the required combining effect 1.6. Exposures and processing equipment are set up to manufacturer's specifications 1.7. Stipples and vignettes are laid at the correct angles and using the correct percentages
2. Combine film	2.1. Spreads, chokes, reverses, deep etchings and line and tone combinations are created according to job specifications 2.2. Colours are separated correctly according to job specifications
3. Ensure accurate registration	3.1. Register marks, register punch holes, centre lines and trim lines are calculated and aligned accurately according to job specifications 3.2. All elements are registered accurately according to design specifications
4. Apply photographic contacting	4.1. The basic exposures for contact, duplication and spreads and chokes are determined 4.2. The contact frames for contact, duplication and spreads and chokes are used correctly

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the brief or layout
- collecting, analysing and organising information by matching production requirements and constraints with requirements of the brief
- planning and organising activities by determining sequence of processes and organising necessary materials
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, register and position
- problem-solving skills by resolving issues of register, fit and overlap
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- choice of printing process and the affect on combining strategy and settings
- steps required to produce the combined image
- image elements unique to this job specification
- criteria that you should apply to colour separated images to ensure they meet job specification/printing process
- masking technique to ensure accuracy and economy
- equipment considerations that are essential to ensure accuracy
- method of producing spreads and chokes (trapping)
- basic exposure data for contacting and duplicating emulsions
- aids that can be used to ensure quality control
- factors that ensure quality of output through a processor
- procedures that could be used to ensure accuracy of registration
- factors that should be observed to ensure screen elements are assembled correctly
- correct percentage tints
- meeting all job specifications
- care that must be taken when matching to PMS colours
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • spreads, chokes, reverses, deep etchings and line and tone combinations meet the job specifications. Colours are separated correctly and all elements registered accurately. Contact, duplication and spreads and chokes have correct exposure • the underlying skill of combining should be transferable across safelight and roomlight environments. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare and assemble at least TWO layouts with a variety of selected image elements following the job brief and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of screened colour separations and tints and detailed job specifications.
<i>Capture</i> may include:	<ul style="list-style-type: none"> variety of image registration and contact exposure equipment suitable for darkroom or roomlight handling.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> hand and photographic techniques.
<i>Output</i> may include:	<ul style="list-style-type: none"> assembled to final film and colour proofing.
<i>Quality standards</i> may Include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards network configuration.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPPP333C Electronically combine complex images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake complex electronic combining of images.
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Application of the Unit

Application of the unit	<p>In a pre-press environment many individuals are required to be competent on more than one graphics application.</p> <p>If this unit is to be used to assess competency with graphics applications, it should be used as a secondary unit to ICP325C Create graphics using a graphics application. It should be used when an additional graphics application is being assessed or taught. It is not to be used to assess an individual on the same software application as ICP325C Create graphics using a graphics application. In other words the individual should not receive the two units of competency for the one graphics application.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess and combine complex images	1.1. The components of complex images for reproduction are electronically evaluated for combining 1.2. Operations are planned for combining digital information from any electronic source to effect job specifications The correct masking technique is used to combine the job economically 1.3. Combined images are manipulated , retouched and corrected electronically to conform to job specifications
2. Edit complex image	2.1. Images are retouched to conform to job specifications 2.2. Images are contoured to conform to job specifications 2.3. Colour correction is undertaken to conform to job specifications 2.4. Tonal correction is undertaken to conform to job specifications
3. Solve technical combining problems	3.1. Technical problems relevant to combining images are resolved by reassessing the elements for combining or amendment of the design 3.2. Complex images are combined with the potential to be reproduced according to the job brief
4. Prepare information for output devices	4.1. The disk capacity is checked for space before final assembly 4.2. The limitations of the system to achieve the required output are assessed 4.3. Appropriate colour profiles are applied according to job specifications
5. Manage the combining system	5.1. The electronic combining system is managed effectively to facilitate the storage, retrieval and outputting of data 5.2. Combining software and files are maintained to ensure an operative system

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief and discussing format and quality of inputs with the client
- collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, fit, spatial relationships between elements and colour profiles
- problem-solving skills by adjusting fit and using colour correction so that output meets requirements of the job brief
- use of technology by using software correctly to ensure efficient processing and ease of subsequent processing

Required knowledge

- settings that need to be varied to suit subsequent printing processes or electronic output
- factors that are used in determining scan resolution
- limitations of a CCD scanner when compared to a Photo Multiplier scanner
- factors that are involved in calibrating the monitor
- converting from an RGB colour model to a CMYK colour model
- meaning of Native format
- characteristics of EPS and TIFF formats
- meaning of Raster Image Processing
- RIP calibration
- two advantages of OPI
- difference between a bitmapped and a vector image
- purpose of the calculation menu [or equivalent] in systems work
- specific limitations that are there with digital cameras
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • complex images are combined with the potential to be reproduced according to job specifications and any image manipulation enhances the image quality • the underlying skill of combining should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO jobs that combine and manipulate complex elements following the job brief and according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • produce TWO jobs that combine and manipulate complex elements following the job brief and according to the listed Performance Criteria • it is expected that special purpose industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Complexity</i> may include:	<ul style="list-style-type: none"> wrap around text, contoured graphics, vignettes, use of layers.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> appropriate software relative to image input.
<i>Output</i> may include:	<ul style="list-style-type: none"> image setters, final films, direct imaging proofing, contract proofs.
<i>Input</i> may include:	<ul style="list-style-type: none"> both DTP and/or proprietary system.
<i>Capture</i> may include:	<ul style="list-style-type: none"> scanner, digital camera, hard storage.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP334C Prepare an imposition format for printing processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to create layouts and impositions.
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Application of the Unit

Application of the unit	This unit requires an individual to manually develop a lay-down sheet and imposition scheme, combine components and meet production and finishing requirements.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Generate a lay-down sheet and imposition scheme	<p>1.1. Printing processes, sheet sizes and binding and finishing instructions are applied to the finished artwork to generate an imposition scheme</p> <p>1.2. A lay-down sheet and imposition scheme are generated according to folding and binding machine requirements and special printing requirements</p>
2. Impose pages and combine components to the final machine sized work sheets	<p>2.1. Pages and combined components are imposed correctly to suit specified sheet size</p> <p>2.2. Numerical sequence and lay-down of the product or mock-up are correctly identified to meet binding and finishing requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, fit, spatial relationships between elements, impositions and colour profiles
- problem-solving skills by adjusting fit, maximising efficiency of imposition and using colour correction so that output meets requirements of the brief
- use of technology by preparing work for final production

Required knowledge

- main considerations when preparing a layout for a printing press
- different working methods for sheet fed presses
- image control marks that are important for press operation
- calculations that need to be done to ensure that the size of the layout is correct
- impact of paper considerations on the type of imposition used
- image control marks at the binding finishing stage
- factors that influenced your imposition
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • printing processes, sheet sizes, binding and finishing instructions and numerical sequence and lay-down of the product meet job and binding and finishing requirements • the underlying skill of imposition should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare, set up and use the manual or software system to produce TWO layouts according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose cameras, tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Input</i> may include:	<ul style="list-style-type: none"> • variety of four-colour images and page assembly.
<i>Capture</i> may include:	<ul style="list-style-type: none"> • images to be imposed can be hard copy or electronic.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> • hand or electronic techniques.
<i>Output</i> may include:	<ul style="list-style-type: none"> • manually prepared layout or electronically generated on screen or plotting.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP352C Output complex images

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to output complex images.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare an output device and prepare complex images or files for output. The final out put will meet the job specifications and be free from errors.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and maintain the output device	1.1.Devices are set up to manufacturer's specifications and enterprise standards 1.2. Output medium is calibrated by conducting exposure tests using appropriate software and hardware 1.3.Calibration is evaluated and necessary adjustments are made to output device
2. Adjust and manipulate images/files	2.1.Electronic files are evaluated as to suitability for output 2.2.Appropriate output resolution is set 2.3.Appropriate screen angle and dot type are set according to job specifications 2.4.Appropriate colour profiles are applied where necessary 2.5.Availability of high resolution images is assessed for OPI process 2.6.Appropriate fonts are available 2.7.All support files are included with the job
3. Output the image	3.1.The file is prepared for output to imaging device 3.2.Job queuing is managed to ensure efficient production 3.3.Images are outputted to the appropriate medium 3.4.Output is processed according to job specifications
4. Evaluate the result	4.1.Out put is checked for correct dot size, screen angles and film density 4.2.Image elements are checked according to original job specifications 4.3.Technical problems are solved and appropriate corrections are made 4.4.Job is prepared for the next stage of production

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by matching information on production requirements and formats with the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating screens and dots and colour profiles
- problem-solving skills by using different types of output (dot shape, screens) to best satisfy requirements of the job brief
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- effect the selection of printing process has on the output settings for final films
- methods/procedures that are available for calibrating an output device
- consequences of incorrect calibration
- corrective action when a file does not transfer correctly
- main points to be checked before sending a job to the RIP
- relationship to screen ruling and the selection of image resolution
- conditions that would cause a variation from conventional screen angles
- checks when preparing a job for OPI
- consequences for image quality if OPI files are not placed in their correct folders
- function of the low resolution file in the OPI process
- main factors that influence the processing speed of a job when being RIPped
- increasing the RIPping speed of a job
- setting changes that must be made to the output device when outputting a stochastic screen
- factors that influence the selection of the micron rating of the screen
- main types of file formats and the effects the selection of a format has on the processing of a job
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • final image must meet job specifications and appropriate colour profiles are applied as required • demonstrate an ability to find and use information relevant to the task from a variety of information sources • output TWO complex images.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> image setters.
<i>Input</i> may include:	<ul style="list-style-type: none"> files from a variety of software sources and platforms.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP360C Undertake special colour proofing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake special colour proofing.
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Application of the Unit

Application of the unit	This unit requires the individual to produce colour proofs according to the job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate artwork and separations	1.1. Job is evaluated to identify required process 1.2. Job is evaluated to identify special colours
2. Produce special colour proofs	2.1. Colours are formulated according to job specifications 2.2. Film separations are exposed to appropriate medium 2.3. Colours are checked against the job specifications using densitometers, spectrophotometers or visual matching to supplied sample or PMS book 2.4. Colours are proofed in the correct sequence according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by using information on colour and proofing to facilitate processing
- planning and organising activities by planning the sequence of operations to facilitate efficient processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by using the densitometer
- problem-solving skills by diagnosing colour matching and other proofing problems and correcting
- use of technology by using equipment correctly to ensure accuracy of output

Required knowledge

- systems that can be used for matching colours
- lighting conditions that should be used when matching colours
- effects that can humidity have on special colour proofing
- factors need to be considered when producing special colour for proofing
- correct colour sequence
- densitometer for proof evaluation
- colour evaluation charts?
- criteria for evaluating a colour proof
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> colours accurately match the job specifications the underlying skills of proofing should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the image be suitable for the printing process demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO sets of special colour proofs that match original artwork and meet client and industry requirements.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools and equipment will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Clients</i> may include:	<ul style="list-style-type: none"> may include but are not limited to new or regular clients with routine or special needs.
<i>Input</i> may include:	<ul style="list-style-type: none"> film separations or digital workflow.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> adjustment of density, exposure, registration.
<i>Colour matching</i> may include:	<ul style="list-style-type: none"> using densitometry or visual matching against colour or PMS book.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP370C Produce multiple image plates

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to make plates for any printing process with repeated images from film inputs.
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Application of the Unit

Application of the unit	This unit requires the individual to make plates with repeated images from film input.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Produce step and repeat layout	1.1. Client information is gathered to enable step and repeat layout 1.2. A layout is produced according to client information 1.3. Data is stored for future retrieval using industry software package 1.4. A register of stock levels is maintained and advice about the depletion of stock is recorded according to enterprise procedures
2. Set up step and repeat machine	2.1. The film is mounted squarely to produce an accurate image 2.2. Accurate masks are cut for image protection/bleeds 2.3. Mounting foils are positioned in a chase to ensure a quality <i>output</i> 2.4. The film or plate is punched, loaded, exposed and processed according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by obtaining client information
- collecting, analysing and organising information by matching the job brief with production requirements
- planning and organising activities by planning the sequence of operations to ensure efficient processing
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating exposures, chemical formulations and positioning of film
- problem-solving skills by identifying plate faults and correcting
- use of technology by using equipment is correctly to ensure ease of subsequent processing

Required knowledge

- relationship between the image of the original and the final substrate
- calculation required to produce the final layout
- correct operation of the step and repeat machine
- steps that are necessary to ensure safe operation
- calculations using x and y coordinates that are needed to be completed to produce the layout rough
- OHS concerns that are there when processing printing plates
- prepare and use a mask to suit the job
- procedures that are employed to ensure correct registration and accuracy/repeatability of exposure
- manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the film or plate is punched, loaded, exposed and processed according to job specifications the underlying skills of step and repeat should be transferable across different pre-press systems and printing processes. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare and set up at least TWO step and repeat layouts for production of multiple repeated images according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> dedicated step and repeat machine either manual or electronically driven.
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of images to be assembled in multiples repeated in a single layout.
<i>Capture</i> may include:	<ul style="list-style-type: none"> a variety of devices electronically or manually operated.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> appropriate software and/or masking methods.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP372C Produce gravure cylinders electronically

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake electronic processes and procedures used to make gravure cylinders.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare and electronically engrave a blank cylinder to be used for gravure printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select the cylinder	1.1. The job specifications are interpreted to select an appropriate cylinder and/or core 1.2. The base cylinder is selected according to the job specifications
2. Pre-plan for engraving	2.1. Opels are analysed against the job specifications and the technical requirements of the equipment 2.2. Opels are masked manually for any uneven start positioning
3. Engrave cylinder electronically	3.1. A clean work environment is maintained to ensure quality of <i>output</i> 3.2. Equipment is maintained according to manufacturer's specifications 3.3. The cylinder is engraved according to job specifications and enterprise procedures
4. Adjust finished cylinder	4.1. Add and delete to finished cylinder 4.2. Required changes are pre-planned 4.3. Additions and deletions are made to cylinder according to job specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief
- collecting, analysing and organising information by matching the job brief with production requirements
- planning and organising activities by planning the sequence of operations to facilitate processing
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating screen angles and rulings
- problem-solving skills by recognising cylinder faults and correcting
- use of technology by using equipment and software correctly to ensure ease of subsequent processing

Required knowledge

- OHS concerns that are there when engraving cylinders
- production parameters that should exist on the job ticket
- calculate a change in screen angle
- screen line ratio for fine rulings
- specific features of the laser engraving process
- cutting stylus affect the print quality
- characteristics of the diamond stylus used for colour work
- techniques of deleting errors on the finished cylinder
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the cylinder is correctly etched to ensure quality reproduction and meets print requirements the underlying skills of cylinder making should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the quality of the cylinder be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare, set up and use an electronic engraving system to produce BOTH stylus and laser gravure cylinders.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> laser and programmable stylus machine.
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of line and tone originals, either as scan ready or digital data.
<i>Capture</i> may include:	<ul style="list-style-type: none"> proprietary or desktop system, or scanning technology.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> use of specific or desktop software.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP382C Produce computer image for screen printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to generate electronic art to a supplied layout film positive or computer cut stencil.
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Application of the Unit

Application of the unit	This unit requires the individual to generate electronic art to a supplied layout film positive or computer cut stencil.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for scanning	1.1. The <i>original</i> is scaled to conform to production specifications 1.2. The original is assessed to determine scanner settings 1.3. The original is cleaned and correctly mounted according to production specifications 1.4. The correct settings are selected for the original to be scanned
2. Scan and check the image	2.1. The original is scanned according to quality requirements 2.2. The quality of the scanned image is checked for conformance to <i>job specifications</i> 2.3. The appropriate software is applied for any processing of text if necessary
3. Prepare the combining strategy	3.1. The required data from electronic files is accessed 3.2. The appropriate application is opened to undertake combining tasks 3.3. The required fonts are accessed according to job specifications
4. Combine data	4.1. Page layout size is created according to job specifications 4.2. <i>Elements</i> are placed in the page according to job specifications 4.3. Trapping (spread and chokes) is applied according to job specifications 4.4. Step and repeat function is accessed according to job specifications 4.5. Elements are stepped according to job specifications 4.6. The output menu is configured according to job specifications
5. Access and maintain the output device	5.1. Output devices are set up and maintained according to manufacturer's specifications and enterprise procedures 5.2. Suitable <i>material</i> is identified and loaded into the output device
6. Output the image	6.1. The system is activated to initiate the output according to job specifications 6.2. Quality is monitored according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the client brief
- collecting, analysing and organising information by scanning the image and combining it with data
- planning and organising activities by preparing the correct sequence of operations for the combining tasks
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by working with layout size when combining data
- problem-solving skills by maintaining quality standards during the production process
- use of technology by using relevant hardware and software to produce computer images for screen printing

Required knowledge

- tolerance that is allowed when scaling the original
- common scanner DPI for graphic line images
- original angling used
- resolution that is used for optical character recognition in scanning
- format the scan is saved
- formatting retained when OCR scanning
- external files access
- most appropriate software for this combining task
- page layout size
- type of elements that can be used
- trapping application
- amount of step and repeats in a job
- first step in configuring the output menu
- type of output devices used in screen printing
- range of substrates that is used in output devices
- file location prior to the output device
- checking techniques that are used to maintain quality standards

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly scan, electronically combine and output to designated devices according to job specification and client standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO separate images on film and /or stencil • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to appropriate equipment and materials.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Original</i> may include:	<ul style="list-style-type: none"> line graphic or text.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, work tickets or processing orders.
<i>Elements</i> may include:	<ul style="list-style-type: none"> text, headings, rules, pictures, graphics, tints, vignettes components and shapes.
<i>Material</i> may include:	<ul style="list-style-type: none"> electronic storage, film, papers, fabric or other substrates.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP385C Operate a database for digital printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to enter, retrieve and prepare data for personalised printing.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to enter, retrieve and prepare data for personalised printing by integrating a database with a layout.</p> <p>At this level of variable data printing the competency is about integrating a database with a layout.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Enter and retrieve data	1.1. All data required for the job is checked and confirmed against <i>job specifications</i> 1.2. Data is accurately entered and completed to meet job specifications 1.3. <i>Fields</i> are created or modified to effectively meet job specifications whilst maintaining the integrity of existing data 1.4. Data structure is maintained according to job specifications 1.5. Automated facilities for data checking are used effectively 1.6. Data is located and retrieved as required by the job 1.7. The help function is used to find solutions to queries if required 1.8. Files are saved to preserve data integrity and to comply with organisational requirements
2. Set extraction requirements	2.1. The database fields meet the <i>placement requirements</i> for the document format 2.2. Client data requirements are prepared by interrogating the database 2.3. The information extracted to the template is correctly processed and saved according to job specifications 2.4. A <i>composition engine</i> is used to achieve the required data format and page layout requirements for merging variable data and static elements
3. Test data	3.1. Data is checked to ensure it is uncorrupted 3.2. Data is in the correct sequence required for the run 3.3. Required dynamic links operate correctly and settings conform to job specifications 3.4. Any adjustments required are made and retested
4. Output data	4.1. The database is configured to the printer and the printer output parameters are set to meet output requirements 4.2. <i>Quality standards</i> for data output are confirmed according to job specifications 4.3. The run is monitored to identify improvement opportunities and to maintain quality

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by creating or modifying fields to enter data
- collecting, analysing and organising information by locating and retrieving the correct data required of the job
- planning and organising activities by using a composition engine to achieve the required data format and page layout requirements
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by configuring the database with the correct output parameters to meet requirements
- problem-solving skills by ensuring that the database fields meet the placement requirements for the document format
- use of technology by operating a database for digital printing

Required knowledge

- computer specific applications
- job sheets
- fonts
- image parameters
- storage and retrieval of digital information
- production standards

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> entering, retrieving and preparing data for personalised printing. Both text and graphic may be used with fixed placement demonstrate an ability to find and use information relevant to the task from a variety of information sources for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that relevant hardware and software will be used for this unit.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specification</i> may include:	<ul style="list-style-type: none"> job sheets, batch processing orders, job specifications.
<i>Fields</i> may include:	<ul style="list-style-type: none"> database fields.
<i>Placement requirements</i> may include:	<ul style="list-style-type: none"> are the variable data and static fields. Variable data fields for this unit are text and images with fixed placement.
<i>Composition engine</i> may include:	<ul style="list-style-type: none"> DL Formatter, Autograph Series, DL Pager, Calligramme, DL Composer.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP386C Undertake digital proofing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake digital proofing.
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Application of the Unit

Application of the unit	This unit requires the individual to calibrate equipment and complete digital proofing for client sign off.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Calibrate proofing device	1.1. The calibration of the machine is checked for conformance to job specifications 1.2. Appropriate ICC profiles are applied to meet colour requirements 1.3. Paper for <i>output</i> is matched to profile
2. Produce proofs from digital data	2.1. The image is retrieved from the database using industry software 2.2. Data file is checked for structural compatibility with capability of RIP 2.3. Special colours are sent to the RIP where appropriate 2.4. Proof is produced according to job specifications and workflow procedures 2.5. Proof is evaluated against job specifications using a densitometer, and checked against changes and original working data 2.6. Proof is prepared for client submission 2.7. Proof is used as a contract proof only if RIP is the same for both proof and film and if client accepts it as such

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by gaining client agreement on contract proof
- collecting, analysing and organising information by checking machine calibration
- planning and organising activities by calibrating the proofing device prior to producing a proof
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by using a densitometer to evaluate the proof
- problem-solving skills by checking the data file for structural compatibility
- use of technology by using relevant hardware and software to produce a digital proof

Required knowledge

- method of producing the colour image
- variations that may occur when utilising different imaging methods
- outputting the image and production of a colour proof, i.e. the transfer of files and the use of specific assembly software
- constraints on file structure that can the RIP impose
- an ICC profile
- differences that can different RIPs have on output
- use of a densitometer for proof evaluation
- calibration software for the output device
- colour evaluation charts
- criteria for evaluating a colour proof
- differences that can there be between preliminary proofs and a contract proof
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the underlying skills of proofing should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the image be suitable for the printing process demonstrate an ability to find and use information relevant to the task from a variety of information sources for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> laser and inkjet proofing systems, using standard copier materials or specially prepared substrate.
<i>Input</i> may include:	<ul style="list-style-type: none"> a variety of electronic image files.
<i>Capture</i> may include:	<ul style="list-style-type: none"> variety of digital colour output devices.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> software and hardware functions.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP396A Generate high-end PDF files

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to generate a high-end PDF file that is ready to be sent to an imaging centre.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals required to generate a high-end PDF file that is ready to be sent to an imaging centre.</p> <p>Individuals will respond to clearly defined briefs and work under limited supervision.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPP284A	Produce PDF files for online or screen display

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check file	1.1. Document is checked to ensure correct layout file and that there are no <i>non-printable elements</i> 1.2. Scanned images are checked for correct resolution and <i>electronic font modification</i> is avoided 1.3. Images requiring cropping and <i>compression</i> are edited in an <i>image editing environment</i> to maintain quality of image 1.4. Tint areas are checked to ensure correct percentage for printing 1.5. Unnecessary elements and blank pages are deleted if not required 1.6. A bleed allowance is incorporated in margins and borders
2. Set PDF Distiller	2.1. Correct paper size is set and fonts are chosen and embedded to meet quality print requirements with regard to copyright regulations 2.2. Appropriate PDF standard is established and selected 2.3. All job options, compression, colour management, colour separation and font options are selected and checked according to requirements of the <i>data recipient</i> 2.4. Process colour separations or spot colour jobs are checked and any problems resolved 2.5. A job ticket is set up according to enterprise procedures, if required 2.6. <i>Advanced job options</i> are selected depending on compatibility and system requirements 2.7. Job options set is named and saved to the correct folder
3. Create PDF	3.1. A printer description file or postscript language file is created and all relevant options are selected or export file settings selected 3.2. Saved postscript file is opened and the job option file is opened through the Distiller as required 3.3. Distiller/PDF export options are checked and set so it does not override the postscript file preferences 3.4. File is distilled and when processing is finished opened to view 3.5. The file is printed to postscript device and quality of

ELEMENT	PERFORMANCE CRITERIA
	<p>all elements are checked</p> <p>3.6.Changes to the file are made in the layout program and pages inserted into multiple page documents</p> <p>3.7.Additional files are converted or exported using the saved job option set</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS)skills for operating machinery, such as safely switching off machinery before cleaning
- communication skills for expressing ideas and information when preparing PDF files
- planning, analytical and organising skills for checking documents to ensure correct file layoutbefore preparing the postscript file
- teamwork skills for maintaining the production process in association with others
- numeracy skills for incorporating a bleed allowance into margins and borders
- problem-solving skills for resolving problems with process colour separations
- technical skills for generating high-end PDF files

Required knowledge

- OHS standards that relate to working for periods of time on computers
- PDF printer driver options
- driver types and preferred application
- suitability of a PDF writer for high-end printing
- true base 13 fonts

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- prepare a high-end PDF file for pre-press
- locate and use information relevant to the task from a variety of information sources.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment required to generate a high-end PDF files
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when generating a high-end PDF file.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Non-printable elements</i> may include:	<ul style="list-style-type: none"> • hairlines • elements outside margins.
<i>Electronic font modification</i> may include:	<ul style="list-style-type: none"> • bold • italic • shadowed • contoured • select fonts like: <ul style="list-style-type: none"> • Times-Bold • Times-Italic.
<i>Compression</i> may include:	<ul style="list-style-type: none"> • compression levels • compression types.
<i>Image editing environment</i> may include:	<ul style="list-style-type: none"> • Adobe Photoshop • Adobe PhotoDeluxe • Corel Photo-Paint • Procreate Painter • MGI PhotoSuite • Adobe Illustrator • CorelDRAW • Macromedia Freehand • Creature House Expression.
<i>Data recipient</i> may include:	<ul style="list-style-type: none"> • pre-press house • pre-press technician • printing house.
<i>Advanced job options</i> may include:	<ul style="list-style-type: none"> • converting gradients • ASCII format • postscript to override job options • document structuring conventions options.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP397A Transfer digital files

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manipulate, delete and transfer digital files.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the individual to accept, document, name, delete, archive and transfer digital files by using enterprise relevant processes.</p> <p>Individual will work under limited supervision and with defined procedures.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Save digital files	1.1. Files are named using enterprise format 1.2. File is checked for use of <i>appropriate formats</i> required for enterprise processing 1.3. <i>Version control</i> is used to ensure the most recent file can be accessed
2. Transfer digital files	2.1. Files to be transferred (sent or received) are selected and the correct method of transfer is chosen 2.2. Locations where the files are to be saved or downloaded are accurately located and navigated 2.3. Files are transferred to required location for processing 2.4. Transferred (sent or received) files are checked to ensure correct transfer has occurred 2.5. Files are documented, moved, renamed, copied, archived and deleted as necessary according to enterprise standards
3. Retrieve and manage digital files	3.1. Required files are retrieved and opened from digital file system 3.2. Computer search functions are used to locate and retrieve files 3.3. File is sent to <i>required location</i>
4. Archive digital files	4.1. <i>Archive system</i> is created according to enterprise protocol 4.2. Consistent, regular backup strategies are undertaken to allow for retrieval of files if there is a data loss event 4.3. Files are retrieved from archive system

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication and literacy skills for expressing ideas and completing required enterprise documentation
- planning, analytical and organising skills for selecting files to be transferred, choosing correct mode and file naming protocols for transferred files
- teamwork skills for maintaining the production process in association with others
- numeracy skill to calculate file size, transfer rates, archival and storage requirements and reviewing the settings
- problem-solving skills for locating, downloading, renaming, moving, copying, archiving and deleting files
- technical skills for transferring digital files

Required knowledge

- enterprise file format standards
- storage media:
 - optical
 - flash
 - magnetic
- file transfer protocols:
 - USB
 - Firewire
 - asymmetric digital subscriber line (ADSL) wireless
 - email attachment
 - ethernet
- file compression methods and effect on file type required for enterprise processing
- file formats and sizes, and their effect on RAM requirements, storage, processing and transfer protocols
- OHS standards that relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manipulating, deleting and transferring digital files by using enterprise determined protocols ability to locate and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment, software and hardware required to transfer digital files use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate in manipulating, deleting and transferring digital files.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Appropriate formats</i> may include:	<ul style="list-style-type: none"> • collect for output, package or similar functions in proprietary software • encapsulated postscript (EPS) • PDF • postscript or other file format standards as required by enterprise • XML.
<i>Version control</i> may include:	<ul style="list-style-type: none"> • recording date • time and version numbers for each major amendment distribute • recording distribution destinations of versions • distribution methods recording amendments to each version proof using: <ul style="list-style-type: none"> • digital signatures • file permissions.
<i>Required location</i> may include:	<ul style="list-style-type: none"> • email • networked storage • transfer via intranet • uploading to or downloading from: <ul style="list-style-type: none"> • a destination website • portable storage device - optical, magnetic or flash.
<i>Archive system</i> may include:	<ul style="list-style-type: none"> • networked storage • uploading to, or downloading from: <ul style="list-style-type: none"> • a destination website • portable storage device - optical, magnetic or flash • other devices used in automated and/or scheduled archiving and backup.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP411C Undertake a complex design brief

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake advanced graphic design from the negotiation of design briefs through to the production of complex finished artwork.
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Application of the Unit

Application of the unit	This unit requires an individual to negotiate a design brief, plan the design process and produce a complex design that meets the design brief and production and quality requirements. The individual will work independently and take responsibility for fulfilment of the brief.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP311C Develop a detailed design concept.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Negotiate a complex design contract	1.1. Communication with the <i>client</i> results in the development of a complex design brief and client agreement is secured 1.2. Job analysis and research are undertaken to source cost-efficient design production procedures 1.3. Possible <i>design options</i> are analysed to meet optional printing processes and substrates 1.4. Individual design stages of the brief are timed and <i>costed</i> to determine accurate parameters of cost 1.5. A quotation is prepared using accurate estimates to communicate to the client the fees required to undertake the brief 1.6. Client approval to proceed is obtained
2. Plan the design process	2.1. The appropriate production processes are planned and scheduled to meet the specifications of the brief for the printing substrate 2.2. Materials are sourced and ordered to conform to the requirements of the brief 2.3. Design team members are briefed and work roles allocated to facilitate the orderliness and timeliness of the design process
3. Render a complex graphic design	3.1. A <i>complex graphic design</i> concept is rendered electronically or manually to conform to the brief 3.2. Adjustments or recommendations are made to enhance the design according to the brief in consultation with the client 3.3. The production processes of the design concept for colour, production run, substrates and costs are assessed according to the requirements of the brief 3.4. The specifications for reproducing the finished artwork are annotated so as to define specified printing processes and substrates
4. Ensure feasibility of production	4.1. Type options are checked to meet specified printing processes and substrates 4.2. The reproduction feasibility of multiple colour vignettes is analysed to meet specified printing processes and substrates 4.3. Line and tone are combined and dot complexity of photography is analysed to meet specified printing processes and substrates

ELEMENT	PERFORMANCE CRITERIA
	<p>4.4. The feasibility of complex imposition and folds are calculated to meet specified printing processes and substrates</p> <p>4.5. Foils and embossing are checked to meet specified printing processes and substrates</p>
5. Solve technical problems	<p>5.1. Materials and/or format are reviewed to ensure the most suitable are selected and therefore do not create problems</p> <p>5.2. Technical problems are resolved by re-design or amendment of the brief in consultation with the client to acceptable standards</p>
6. Ensure quality output	<p>6.1. Standards for reproduction are documented to form a reference bank for the design process</p> <p>6.2. Design solutions are filed and stored ready for retrieval according to enterprise procedures</p> <p>6.3. Internal performance standards are evaluated to identify potential reforms for future enterprise procedures</p> <p>6.4. Future actions are determined to incorporate accurate cost and time analyses into future briefs</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by determining exactly what the client wants from the brief and subsequent discussion
- collecting, analysing and organising information by balancing and matching client demands with requirements for reproduction and costs
- planning and organising activities by coordinating job sequence so that materials arrive, are processed and can be checked efficiently
- teamwork when ensuring that designers, printers and clients all know what they need to do and when
- mathematical ideas and techniques by calculating costs and determining enlargement/reduction factors
- problem-solving skills by coping with discrepancies between the brief and what is possible
- use of technology by using appropriate software to create the design and ensuring files are saved in the required format

Required knowledge

- effect of the design brief upon the selection of a printing process
- different design requirements for THREE printing processes, operations or electronic media
- factors that have you considered when selecting appropriate colours for this job
- choice of colours and the affect on the mood of a targeted consumer
- procedures that have you implemented to produce a special effect
- selection of type face design to the intended product
- factors that have you consider when selecting the appropriate printing substrate for this job
- effects different inks and substrates have on design
- problems that may arise when running an image across a double page spread
- steps that would be taken to overcome the problem of finger marks on dark solids
- common technical problems that occur when a design is printed and how can they be resolved
- recognising and rectifying faults on artwork supplied by the client
- effect of colour breakdown and sequence on printing operations and printed jobs
- matching artwork to customer's specifications as outlined on the job sheet
- methods that you use for assessing the quality and suitability of externally produced artwork

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• problems that can be caused by using sub-standard and unsuitable artwork• design factors that affect the cost of a printed job• producing a design within budget• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents• other sources of information that are available |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> developing an agreed clear design brief and preparing a quotation. Rendering a complex design taking into account the design brief and quotation. Meeting the design reproduction and end user requirements the underlying skill of solving complex technical problems of layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources produce finished art from a complex design brief. Provide evidence that each stage from initial negotiations to completion has been carried out satisfactorily.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Clients</i> may include:	<ul style="list-style-type: none"> internal or external clients.
<i>Design tools</i> may include:	<ul style="list-style-type: none"> a range of manual equipment or hardware and design software applications.
<i>Costed</i> may include:	<ul style="list-style-type: none"> hourly rates, material costs and any other factor contributing to job costs.
<i>Complex graphic design</i> may include:	<ul style="list-style-type: none"> complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions and embossing.
<i>Applications</i> may include:	<ul style="list-style-type: none"> design can be specific to publishing, consultancy, advertising or packaging.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP421C Compose and evaluate typography

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake advanced typesetting and typography involving contingencies and problem solving beyond routine requirements.
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Application of the Unit

Application of the unit	<p>This unit requires an individual to compose type, resolve any technical reproduction issues and manage type storage and retrieval.</p> <p>The individual would be working independently and be able to cope with the unexpected challenges related to the job.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP221C Select and apply type.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Compose type	1.1. Type is composed according to job specifications 1.2. Allowance is made for type run-arounds, stipples, spot colour and complex shapes 1.3. Kerning is applied to type according to job specifications
2. Solve typographic technical problems	2.1. Capabilities of the equipment to produce type are assessed correctly 2.2. Technical problems relevant to the colour and reproduction of type are resolved by re-evaluation of typographic elements or amendment of the brief in consultation with the client
3. Ensure quality of typographic output	3.1. The finished typography is checked for conformance to client specifications, including correct grammar and punctuation and printing requirements 3.2. The quality of typographic reproduction is monitored to ensure the required standards of output
4. Manage the type system	4.1. The electronic type system is managed to facilitate the storage, retrieval and outputting of data 4.2. Type software and fonts have current user licences that allow the type to be used for the job 4.3. Type software and files are stored in appropriate locations for future access

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the brief and discussing format of inputs with the client
- collecting, analysing and organising information by matching information on fonts, typography, colour, production constraints with the brief to ensure best possible outcome
- planning and organising activities by composing type using overlays and tints
- teamwork when resolving technical problems in consultation with the client
- mathematical ideas and techniques by calculating fit, font size, enlargement/reduction factors and costs
- problem-solving skills by solving problems of fit, colour and costs to produce best possible result
- use of technology by using appropriate software correctly to ensure ease of subsequent processing

Required knowledge

- typographic considerations that must be taken into account when making type face selections for the various printing processes or electronic media
- effects that type alignment and justification have on a job
- nature of dynamic design layouts which affect type selection
- difference between text point size and display point size
- basic classifications of text typefaces
- problems that arise when using fine type in reverse print
- typographic principles that must be considered when stippling type
- colour considerations when using text type
- references that you utilised to evaluate if appropriate grammar has been used in this job
- references that you utilised to evaluate if appropriate punctuation has been used in this job
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • composing type using overlays, tints and kerning to meet specifications. Resolving any technical problems. The quality of type reproduction meets the quality standards defined in the job specifications • the underlying skill of solving typographic problems should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce and evaluate TWO complex typographic jobs according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Complexity may include:	<ul style="list-style-type: none"> intricate and contingency operations requiring problem solving beyond the routine operation.
Clients may include:	<ul style="list-style-type: none"> internal or external clients.
Quality standards may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
Type of software may include:	<ul style="list-style-type: none"> suitcase FontAgent X Fontographer FontLab TypeTool and type utilities new software applications and new versions of existing products enter the market regularly, therefore this example group will change.
Tools may include:	<ul style="list-style-type: none"> a range of manual or electronic equipment and software applications.
Application may include:	<ul style="list-style-type: none"> design can be specific to publishing, consultancy, advertising or packaging in hard copy or electronic media.
Input may include:	<ul style="list-style-type: none"> type can be generated manually or electronically using typesetting software applications.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP422C Digitise complex images for reproduction

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake advanced complex colour scanning or digital capture.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare an original, calibrate the scanner, and produce and evaluate scanned images that meet the technical specifications of the job.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Mount and prepare original copy	1.1. <i>Copy</i> is mounted and positioned according to scanner/artwork specifications 1.2. Crops are marked to minimise the use of disk space 1.3. Multiple copy units are correctly identified and assigned according to technical specifications
2. Set up and adjust the scanner	2.1. The scanner is calibrated and the program is set according to job specifications 2.2. Colourcast and catchlights are assessed to ensure the image is scanned according to job specifications 2.3. Adjustments are made to tone and colour correction requirements 2.4. End points are set 2.5. Scanner settings are utilised to achieve the required results for varied print processes
3. Produce and evaluate complex images	3.1. Images are scanned using appropriate software commands and scanner controls 3.2. Scanned images are evaluated for colour and grey balance, tone reproduction, cast removal and end point accuracy 3.3. Images are stored on file and displayed on monitor or <i>output</i> device according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting explicit and implicit requirements of the job brief
- collecting, analysing and organising information by matching constraints of production with requirements of the job brief
- planning and organising activities by ensuring scan procedure is in correct sequence
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating enlargement/reduction factors, resolutions, colour profiles and grey balances
- problem-solving skills by adjusting colour and grey balance to ensure best possible outcomes
- use of technology by using software and hardware correctly to ensure ease of subsequent processing

Required knowledge

- examples of why scanner settings need to be varied to suit subsequent printing processes or electronic output
- factors that influence selection of highlight and shadow aim points
- critical qualities of a copy that need evaluation prior to reproduction
- main points to be considered when preparing a copy for scanning
- determining grey balance requirements prior to applying colour correction
- process of determining grey balance requirements
- factors that determine the requirement for colour correction
- applying catchlight controls
- considerations that are necessary to ensure predictability and repeatability at the output stage
- methods of storage and filing of images for retrieval
- criteria used for evaluating scanned images
- selecting the file format (eg TIFF, EPS, PICT) to save the scan
- other file formats are available for saving scans and when they would be used
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> scanned images should have high quality colour, grey balance, tone reproduction and cast removal the underlying skill of scanning images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the scanned image be suitable for the identified printing processes demonstrate an ability to find and use information relevant to the task from a variety of information sources use a medium to high-end full colour scanner (with full software capabilities) to reproduce at least TWO colour continuous tone originals with different contrast characteristics and ONE rescreen according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Input/copy</i> may include:	<ul style="list-style-type: none"> transparency (positive and negative) reflection and re-screens for mono, RGB, CMYK evaluation, preparation and mounting.
<i>Output</i> may include:	<ul style="list-style-type: none"> film, disk, proof.
<i>Capture</i> may include:	<ul style="list-style-type: none"> flat-bed or drum scanner with full colour capabilities.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> software to achieve programming and functional control to suit various printing processes and copy specifications.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP423C Apply colour to design brief

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to effectively apply colour to enhance artwork and to meet the requirements of a design brief.
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Application of the Unit

Application of the unit	This unit requires the individual to apply colour to enhance a design and meet the requirements of a design brief. This unit covers the application of colour to a design.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare colour options	1.1. <i>Colour requirements</i> of the brief are identified and clarified if necessary 1.2. The effectiveness of different <i>colour schemes</i> used previously by self and others are compared to influence current artwork 1.3. <i>Colour tools</i> are used to inform choice of colours 1.4. Overall colour composition is developed taking into account <i>target audience</i> , <i>balance</i> and relationships
2. Apply colour to artwork	2.1. Colours are applied to the artwork according to specifications of the brief 2.2. Colour and objects are appraised to ensure overall balance and emphasis and adjustments made as required 2.3. Any halftones are matched with similar colours according to specifications of the brief 2.4. Overall artwork is appraised to ensure best possible colour options are used given the brief and other elements of the artwork and changes are made if necessary 2.5. Artwork samples that effectively meet the brief are produced 2.6. Artwork is saved and prepared for presentation to client

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by applying colour effectively to the design brief
- collecting, analysing and organising information by considering previous colour schemes used by self or others
- planning and organising activities by preparing colour options prior to applying colour to artwork
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by appraising overall artwork to ensure best possible colour options are used
- problem-solving skills by identifying the effectiveness of different colour schemes
- use of technology by using the relevant hardware and software to effectively apply colour

Required knowledge

- reducing colour for compression
- market segmentation responses to colour
- colour attributes
- browser safe colours
- colour models

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> producing artwork with a sophisticated use of colour that demonstrates a fundamental understanding of colour theory demonstrate an ability to find and use information relevant to the task from a variety of information sources for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone and/or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment relevant hardware and software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Colour requirements</i> may include:	<ul style="list-style-type: none"> object colour balance, colour contrast, browser safe colours, RGB Spectrum, process colour, spot colour.
<i>Colour schemes</i> may include:	<ul style="list-style-type: none"> colour grading, colour scales, colour attributes in hue, chroma, value.
<i>Colour tools</i> may include:	<ul style="list-style-type: none"> colour Hex charts, colour wheels, colour swatches, Sixteen Predefined Colours, PANTONE.
<i>Target audience</i> may include:	<ul style="list-style-type: none"> consumer preferences, corporate identity, mood, age group or gender appeal, social connotations of colour.
<i>Balance</i> may include:	<ul style="list-style-type: none"> optical centre, colour relationships, composition balance, colour/object balance.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPPP430C Manage colour

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage colour in pre-press operations to ensure that proofs, monitors and final products match.
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Application of the Unit

Application of the unit	This unit requires the individual to manage colour in pre-press operations to ensure that proofs, monitors and final products match.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify colour requirements	1.1. Printing conditions are determined to identify colour management requirements 1.2. Printer's requirements are established to guide the provision and use of ICC colour profiles
2. Fingerprint press if printing in a controlled environment	2.1. Suitable <i>test charts</i> are selected 2.2. Test chart is printed with standard ink densities on a range of stock including non-standard types such as yellow parchment 2.3. Densitometer and/or <i>spectrophotometer</i> is used to examine printed test charts and generate colour profile for that press and that stock
3. Calibrate digital proofing device	3.1. Proofer is linearised for required stock 3.2. Digital test file (eg IT8 chart) is obtained 3.3. Test file is printed on a <i>proofing</i> device and on the type of press that will be used in order to obtain a proof for both film and direct to plate technologies 3.4. Results are measured with a spectrophotometer 3.5. Results are used to generate output profile that allows for dot gain, GCR, UCR, total gradients and black values
4. Create different monitor profiles using colour tuning package	4.1. A densitometer with screen suction device, if available, and/or appropriate <i>software</i> (OR) are used 4.2. Contrast (white level) and brightness are set 4.3. RGB and CMYK ICC profiles are applied 4.4. Jobs on screen are viewed through appropriate profiles
5. Calibrate scanner	5.1. Test chart (eg IT8) is loaded 5.2. Scanner input profiling software is used to calibrate scanner (OR) 5.3. All settings are put to zero (0) 5.4. Test chart is scanned and digital proof is outputted 5.5. Spectrophotometer is used to measure proof and ICC profile as generated ICC profile is loaded into scanning software
6. Calibrate digital camera	6.1. Standard lighting conditions are set up 6.2. ICC target is photographed and digital proof is outputted 6.3. Spectrophotometer is used to measure proof and ICC

ELEMENT	PERFORMANCE CRITERIA
	profile as generated 6.4. ICC profile is loaded into digital camera software
7. Carry out maintenance	7.1. Whole system is checked every two to three months 7.2. Monitor calibrations are checked monthly 7.3. Digital proofing devices are checked at least every time ink or paper stock is changed
8. Use colour profiles	8.1. Appropriate profiles are used to ensure that colour on <i>monitors</i> , proofs and final product match as closely as possible 8.2. In a <i>controlled environment</i> press fingerprint for final output is used, otherwise digital proofer profile is used 8.3. Colour wedges are included in all files and outputs

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by printing a test file on proofer
- collecting, analysing and organising information by determining printing conditions in order to identify colour management requirements
- planning and organising activities by clarifying colour requirements before generating a proof
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by using densitometry, spectrophotometry and colour profiles
- problem-solving skills by diagnosing and correcting colour problems
- use of technology by using software and hardware correctly to ensure consistency of output

Required knowledge

- OHS issues need to be considered when managing colour for pre-press
- measuring light intensity and colour temperature
- standard lighting conditions for matching colour
- effects different lighting conditions have on using a monitor, proofing and printing
- difference between RGB and CMYK colour
- theory behind UCR and the effect it has on an image
- theory behind GCR and the effect it has on an image
- densitometry and spectrophotometry measure
- ICC profiles and why are they used
- ICC profiles and how they affect output
- factors that influence selection of highlight and shadow aim points
- grey balance requirements to be determined prior to applying colour correction
- factors that determine the requirements for colour correction
- use of different ink densities for different stocks
- standard ink densities for different types of job
- effects different stocks have on colour reproduction
- effects different inks have on colour reproduction for proofing and final production
- effects the age and configuration of the press (eg 2-colour vs 4-colour) have on colour reproduction
- type of press and what printing process are being used for final output
- strengths and limitations with respect to colour reproduction of different printing

REQUIRED SKILLS AND KNOWLEDGE

processes

- | |
|---|
| <ul style="list-style-type: none">• common problems for colour management and how can they be solved• including an ICC profile in a PDF file• affect using the wrong profile has on output• sources of information about colour management |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> managing colour in pre-press operations to ensure that proofs, monitors and final products match demonstrate an ability to find and use information relevant to the task from a variety of information sources a portfolio that demonstrates all criteria have been met. This should include evidence of THREE jobs with final product printed on various stocks and matching digital proofs on simulated stock. Monitors should also be checked to ensure that they have different loaded profiles that match jobs. There should also be evidence of colour management system maintenance procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Test charts</i> may include:	<ul style="list-style-type: none"> • 3 and 4-colour neutrals • CMYK colour scales and a range of colour patches.
<i>Spectrophotometers</i> may include:	<ul style="list-style-type: none"> • range of strip reader style devices including <ul style="list-style-type: none"> • Gretag • Macbeth • Xwrite.
<i>Proofing systems</i> may include:	<ul style="list-style-type: none"> • range of digital proofing systems used in the industry.
<i>Software</i> may include:	<ul style="list-style-type: none"> • range of industry colour applications including colour management software (eg Colorsync), profile creating software, scanner profiling software (eg Colortone Pro, Scan Open), densitometry and spectrophotometry software.
<i>Monitors</i> may include:	<ul style="list-style-type: none"> • range of monitors used in the pre-press sector.
<i>Controlled environment</i> may include:	<ul style="list-style-type: none"> • a controlled environment is one in which temperature and humidity are controlled, the press to be used for the job is known as is, preferably, the printer.
<i>Printing processes</i> may include:	<ul style="list-style-type: none"> • all printing processes.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP435C Generate complex imposition

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake complex electronic imposition
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Application of the Unit

Application of the unit	This unit requires the individual to develop an imposition that best meets the job specifications and substrate size with a minimum delay in workflow.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Impose images electronically	1.1. Industry designated software is applied to the imposition of images according to job specifications 1.2. Imposition options are reviewed to ensure best fit for final substrate size 1.3. Trapping variables are taken into account 1.4. The particularities of the press are considered
2. Solve technical problems of imposition	2.1. Technical problems relevant to imposition are considered in the <i>imposition</i> scheme 2.2. A lay-down sheet is prepared according to cutting and creasing and folding requirements 2.3. Binding and finishing requirements are considered according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by accessing data on software capabilities, production requirements and imposition schemes and matching them with the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating fit, spatial relationships between elements, impositions and colour profiles
- problem-solving skills by adjusting fit and imposition schemes to production requirements so that output meets the job brief
- use of technology by using software correctly to ensure ease of subsequent processing

Required knowledge

- examples of how subsequent printing processes or electronic output affect imposition
- imposition marks and why are they there
- difference between saddle stitch and perfect binding
- head margins
- difference between sheetwise and work and turn
- trapping requirements that apply for specific jobs
- saving a PostScript file
- imposition set up document
- installing fold and cut marks
- nominating creep settings
- creep and bottling
- availability of a server signature program to the output station
- technique that is used to verify that pictures and fonts are available
- mock-up and why is it used
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • imposition that best meets the job specifications and substrate size • the underlying skill of solving complex technical problems of imposition to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO complex impositions according to the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose tools, equipment and industry software packages will be used where appropriate.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Imposition software</i> may include:	<ul style="list-style-type: none"> may include Imposition Publisher, Preps, DynaStrip, Impose-X, FACILIS IM, Panther PageImposer. New software applications and new versions of existing products enter the market regularly and therefore this example group will change imposition plug-ins (eg Quark Express, Impolite) and imposition components of page layout applications where imposition is completely automated are not appropriate for assessing this unit of competency.
<i>Input</i> may include:	<ul style="list-style-type: none"> complex imposition data.
<i>Capture</i> may include:	<ul style="list-style-type: none"> any desktop or proprietary computing system.
<i>Manipulation/edit</i> may include:	<ul style="list-style-type: none"> a suitable imposition application.
<i>Output</i> may include:	<ul style="list-style-type: none"> printers, hard disk, imagesetters, digital proofers or plotters.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> complex refers to intricate and detailed imposition and may include difficult cuts for packaging, design variations, folds and bindings.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP452C Output complex images direct to plate or press

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to output complex images direct to plate or direct to press.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and calibrate the output device, align, adjust and manipulate files and output the error free data to plate or press.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP352C Output complex images.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and maintain the output device	1.1. Output device is set up to manufacturer's specifications and enterprise standards 1.2. Output device is calibrated for profiles, stock and ink types through use of calibration pages and densitometry 1.3. Calibration is evaluated regularly and necessary adjustments are made to output device
2. Adjust and manipulate images/files	2.1. Files on electronic media are evaluated as to suitability for output 2.2. Appropriate output resolution and data are set 2.3. Appropriate screen angle and dot type are set according to job specifications 2.4. Colour profiles appropriate to the job specifications are applied as required 2.5. Availability of high resolution images for OPI process is assessed 2.6. Appropriate fonts are available 2.7. All support files are included with the job
3. Output the image	3.1. The file is prepared for output to plate setter or digital printing press using industry designated software 3.2. If outputting to plate, plate material is selected according to requirements of the press and job specifications 3.3. If outputting to plate, plate size is selected according to the requirements of the press 3.4. Image is positioned on plate/press with correct orientation with respect to grip 3.5. Job queuing is managed to ensure efficient production 3.6. Images are outputted to the appropriate medium 3.7. Output is processed according to job specifications
4. Evaluate the result	4.1. Out put is checked for correct dot size and screen angles 4.2. Image elements are checked according to original job specifications 4.3. Technical problems are solved and appropriate corrections are made 4.4. Job is prepared for the next stage of production (eg

ELEMENT	PERFORMANCE CRITERIA
	plates are processed)

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by matching information on production requirements and constraints with file formats and the job brief
- planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- teamwork when organising delivery of files and materials to facilitate smooth processing
- mathematical ideas and techniques by calibrating equipment to the requirements of file formats, outputs and the job brief
- problem-solving skills by diagnosing technical problems with output and adjusting
- use of technology by using equipment correctly to ensure ease of subsequent processing

Required knowledge

- effect selection of printing process has on the output settings
- methods/procedures that are available for calibrating an output device
- consequences of incorrect calibration
- differences in stock affect on calibration
- calibration check frequency
- systems procedures and file management
- rectifying file that do not transfer correctly
- main points to be checked before sending a job to the RIP
- image manipulation
- screen ruling relationship to the selection of image resolution
- conditions that would cause a variation from conventional screen angles
- checks when preparing a job for OPI
- consequences for image quality if OPI files are not placed in their correct folders
- function of the low resolution file in the OPI process
- main factors that influence the processing speed of a job when being RIPped
- increasing the RIPping speed of a job
- setting changes that must be made to the output device/software when outputting a FM screen
- factors that influence the selection of the micron rating of the screen?
- main types of file formats and the effects the selection of a format has on the

REQUIRED SKILLS AND KNOWLEDGE

processing of a job

- | |
|--|
| <ul style="list-style-type: none">• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents• other sources of information that are available |
|--|

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • final image must meet job specifications. All proofs and checks are confirmed as being completed before proceeding to output image. Selected plate size and orientation meet requirements of the press • demonstrate an ability to find and use information relevant to the task from a variety of information sources • output TWO complex images direct to plate or press.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • it is expected that special purpose tools and equipment will be used.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Output</i> may include:	<ul style="list-style-type: none"> digital plate setters and direct imaging presses.
<i>Input</i> may include:	<ul style="list-style-type: none"> files from a variety of software sources and platforms.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP481C Design complex carton

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to design cartons for which no templates exist.
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Application of the Unit

Application of the unit	This unit requires the individual to design an original complex carton that meets job specifications and substrate characteristics, and then produce an accurate example.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the requirements of the brief	1.1. Discuss brief with client to ensure requirements are understood 1.2. Check that all relevant information is in the brief ie end use, dimensions and product characteristics
2. Design carton to suit requirements of the brief	2.1. Determine appropriate carton style, size, material and calliper to meet the client brief 2.2. Use scanners or digitisers to import <i>design material</i> into computer program 2.3. Draw design using computer program 2.4. Set height, width and depth and gluing flap dimensions to meet the requirements of the client brief 2.5. Requirements for knife setting, stripping and gluing in production are checked and position is designed so as to have correct grain direction and to maximise use of material
3. Use plotter to cut sample	3.1. Output device (eg plotter) is set up ready for downloading design 3.2. Cutting and creasing depths are set 3.3. Calliper of material is checked 3.4. Material is positioned correctly 3.5. Output device is operated safely according to manufacturer's specifications and enterprise procedures 3.6. Routine machine maintenance is carried out
4. Assemble sample	4.1. Sample is cut by hand adopting safe practices 4.2. Cut sample is folded and glued by hand ensuring that angles and construction are correct
5. Check and adjust design	5.1. Sample is checked for conformance to the client brief 5.2. Design is adjusted if necessary to meet job specifications
6. Output design	6.1. Design is saved ready for downloading to forme cutter 6.2. Design is outputted as keyline for artwork or as film as required 6.3. Relevant paperwork is completed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and discussing possibilities with the client
- collecting, analysing and organising information by matching the job brief with data on carton types, designs and materials
- planning and organising activities by planning the sequence of operations to facilitate processing
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating sizes, callipers and efficient use of materials
- problem-solving skills by recognising and fixing problems with samples
- use of technology by using equipment correctly to ensure efficient output and accurate designs

Required knowledge

- health and safety concerns when using computers, plotters and scanners?
- affect of board grain on carton design
- affect of board calliper on carton design
- correct use of a micrometer
- appropriate board for a product
- scuff, heat and moisture resistance
- effect inks and sealants have on board characteristics and selection
- computer programs that are available for carton design
- programming a new design on the computer system
- uses and limitations of digitisers and scanners
- using digitisers and scanners
- types of products that cartons are used for
- determining if a design is appropriate for its end use
- effect on design and materials refrigeration has
- aspects of product sizing and tolerances that should be rechecked
- setting tolerances in a design
- stability in a display carton
- determining appropriate strength
- determining appropriate size and placing of glue lines and nips
- carton designs that are suitable for machine packing

REQUIRED SKILLS AND KNOWLEDGE

- carton designs that are suitable for hand packing
- constraints on design and positioning on the forme that are caused by the requirements of knife making and production
- manufacturing requirements with regard to cutting and gluing affect carton design
- appropriate angles and cornering of flaps
- the main features of, and differences between, different graphic design software programs that need to be considered when outputting carton designs
- ensuring that output is appropriate for the graphic design software used by the customer
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the sample carton accurately meets the client brief and substrate characteristics demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO different complex carton designs.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Types of design</i> may include:	<ul style="list-style-type: none"> full range of cartons including sleeves, tucks, full flap, auto lock, crash lock, trays and other special designs for which there are no existing templates on the computer.
<i>Design tools</i> may include:	<ul style="list-style-type: none"> appropriate computer programs, output devices, plotters, scanners, digitisers.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units	

ICPPP484C Set up and operate automated workflow

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and operate an automated workflow to produce a print ready file.
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Application of the Unit

Application of the unit	This unit requires the individual to set up and operate an automated workflow to produce a print ready file.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check job files and perform pre-flight	1.1. All details required for the job are checked and confirmed against job specifications 1.2. Files are loaded and all file resources are checked to determine if file is ready for production 1.3. File format is identified and best method of submission is chosen 1.4. Missing fonts are, where available, embedded and image data optimised, cropped and/or compressed if necessary 1.5. Hairlines are thickened to a minimum width, if necessary 1.6. Layout images are assigned as high resolution data and down sampled 1.7. Thumbnails are generated for viewing pages
2. Create portable job ticket format processors	2.1. Parameters for individual elements or steps for all phases of the job are defined 2.2. All phases of the job are sequenced according to the workflow and enterprise processes 2.3. If necessary access levels are set for operators 2.4. The workflow definition is reviewed and saved
3. Transform colours	3.1. Assigned colour libraries are checked for consistency and colour names are converted if inconsistency is present 3.2. Spot colours are converted to process colours where necessary 3.3. Output colours are matched to colours input using selected ICC profile 3.4. Colours are set for the final proof output
4. Set trapping parameters	4.1. The portable job ticket format trapping settings are used and additional trapping requirements are added where appropriate 4.2. Traps are viewed and checked in the file 4.3. If necessary traps are edited, removed or replaced 4.4. An appropriate separation-capable proof is viewed to ensure that the separations will output as expected
5. Proof pages	5.1. An imposition plan is assigned to the job 5.2. A form proof from the plotter is printed containing all printer marks and signature marks are viewed for final checking

ELEMENT	PERFORMANCE CRITERIA
	5.3. Pages are outputted on a page proofer and checked 5.4. Any required changes are made and proof is approved by client
6. Prepare for output	6.1. Jobs to be imaged are outputted to film or plate 6.2. CIP3/CIP4 data is captured and dealt with according to enterprise procedures 6.3. Information for the presetting of cutting and folding machines is generated if required and plug-ins are available 6.4. The Print Production Format files are exported to or saved for the print console and outputted for plate or film imaging 6.5. Job data is saved and archived as required 6.6. Documentation is signed off according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by exporting or saving print production format files
- collecting, analysing and organising information by loading files and checking file resources to determine production status
- planning and organising activities by proofing pages prior to preparing for output
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by generating thumbnails for viewing pages
- problem-solving skills by checking assigned colour libraries and converting inconsistent colour names
- use of technology by creating portable job ticket format processors

Required knowledge

- pre-flighting
- hairline effects
- importance of the colour space
- trapping

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • setting up and operating an automated workflow to produce a print ready file • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up and operate an automated workflow to produce TWO different print ready files • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • automated workflow software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>File resources</i> may include:	<ul style="list-style-type: none"> • fonts • high-resolution images.
<i>File format</i> may include:	<ul style="list-style-type: none"> • PP • EPS • PDF • PS • TIFF • JPEG.
<i>Separation-capable proof</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.
<i>Separation</i> may include:	<ul style="list-style-type: none"> • VPS • Spectrum • InSite or Prinergy's Separation Viewer plug-in for Adobe Acrobat.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP485C Develop a digital data template

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to document content and structure for digital print equipment.
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Application of the Unit

Application of the unit	This unit requires the individual to identify data requirements, content and structure of a digital template for variable digital printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP385C Operate a database for digital printing.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify content requirements	1.1. Data purpose is identified from job requirements and clarified with client 1.2. Data file format and type of database are identified 1.3. Layout is determined from job requirements and confirmed with client 1.4. Static and variable areas are identified according to job specifications 1.5. Accuracy of data is confirmed and signed off as such by client 1.6. The requirement for additional software integration is determined such as postal software
2. Develop the template	2.1. Fields are created and named consistently to reduce errors 2.2. Copy holes and data are marked-up to match the job specifications 2.3. A report for the printer is developed which identifies the relevant data assigned to each copy hole according to job specifications and business rules 2.4. Copy holes are assigned and related information documented for the printer to understand the connection to the data 2.5. The correct number of fields is available for the job 2.6. Template is signed off as suitable by client
3. Finalise and test the template	3.1. Business rules are tested and if possible a soft proof is reviewed 3.2. The final document is viewed with a markup language parser 3.3. Spot colours are converted to process colours where necessary 3.4. The template is well-formed, free of errors and meets the needs of the client 3.5. The template is extensible to meet future client needs 3.6. Template is finalised and made ready to send to the press

Required Skills and Knowledge

Required knowledge

- standard Generalised Markup Language and why it is important
- SGML relationship to XML and PPML
- difference between SGML, PPML and XML and the use of SGML over XML
- difference between Cascading Style Sheets (CSS) and XSL
- intended purpose of XSL
- use an extensible markup language over HTML
- ways that you use both with the one set of data
- purposes of meta data within markup language documents
- PRISM importance for content publishing
- personalised Print Markup Language relationship to XML

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> identifying correct data requirements and developing and marking up the structure of a digital template for variable digital printing demonstrate an ability to find and use information relevant to the task from a variety of information sources a digital template for variable data printing that is error free in the soft proof evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment relevant hardware and software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Data purpose</i> may include:	<ul style="list-style-type: none"> target audience, type of product.
<i>Variable fields</i> may include:	<ul style="list-style-type: none"> text images layout with flexible placement.
<i>Markup</i> may include:	<ul style="list-style-type: none"> PPML/VDX XML.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPP494C Develop document content and structure

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop the content meaning and document structure for markup for web page or electronic publishing purposes.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to create documents that have structure, content, readability and design appropriate for an online or print audience.</p> <p>Electronic publishing here refers to the creation and delivery of a document/information to the reader as electronic output or for print format.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPPP396A Generate high-end PDF files.	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify document requirements	1.1. Content meaning and information structure are developed based on the document intent, final media and intended audiences 1.2. Information is identified and grouped according to the job brief 1.3. Target audience requirements and expectations are determined according to the brief
2. Plan content structure	2.1. Information is arranged in related topics and a logical sequence 2.2. Content meaning is tested by simulating the generation of new coherent documents based on the original content 2.3. A hierarchy of information is developed with <i>data</i> checked to confirm the hierarchy sequence
3. Develop information architecture	3.1. An information hierarchy is prepared catering for the physical storage of the files 3.2. Search and retrieval mechanisms are prepared for content discovery 3.3. An information hierarchy is designed catering for navigation and access between files or groups of content
4. Develop navigation system	4.1. High level, local and document navigational systems are built based on information architecture 4.2. The design is consistent, intuitive and has a logical labelling system to provide access to various levels and type of content 4.3. Labels and indexes are clear, consistent, coherent and relatively intuitive to enable target audience access
5. Design information layout	5.1. Templates for textual and graphic elements are developed to facilitate consistent and uniform layout and visual design 5.2. An extensible template is linked to the document
6. Test the document	6.1. A suite of prototypes for all document levels is developed 6.2. The rigour of the information architecture at all levels is tested 6.3. Correct functioning and intuitive use of the navigational features are tested for all levels

ELEMENT	PERFORMANCE CRITERIA
	<p>6.4. Visual design and layout are tested at all levels against standard onscreen design principles</p> <p>6.5. Levels of <i>accessibility</i> for people with disabilities are acceptable</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by developing an intuitive, easy to use navigation system that provides different ways of searching for information
- collecting, analysing and organising information by developing a consistent and logical labelling system
- planning and organising activities by planning the content structure before determining the navigation system
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by developing labels and indexes
- problem-solving skills by testing the information structure to identify any gaps or problems with navigation
- use of technology by using relevant software to develop document content structure and navigation system

Required knowledge

- difference between a data store document and a document layout application
- meta languages for multiple audiences
- metadata and in particular PRISM
- personalised Print Markup Language (PPML)
- principles of document navigation
- content conversion and content management
- data mapping and content models

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> developing information structures for markup, web pages or long document assembly. The document is intuitive for target audience navigation demonstrate an ability to find and use information relevant to the task from a variety of information sources TWO different documents are created and successfully tested evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPMM492C Create an extensible style sheet ICPPP485C Develop a digital data template.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Data</i> may include:	<ul style="list-style-type: none"> includes mixed data and dynamic data.
<i>Accessibility</i> may include:	<ul style="list-style-type: none"> includes "content discoverability" as well as content availability with regard to people with disabilities.
<i>Markup language</i> may include:	<ul style="list-style-type: none"> new markup languages are becoming available regularly and examples include XML and PPML. This unit does not cover HTML which is covered by another unit ICAB4135B Create a simple mark-up language document to specification.
<i>Document purpose</i> may include:	<ul style="list-style-type: none"> electronic publishing, e-commerce, web services, interchange of data amongst different applications, software configuration files.
<i>Electronic publishing</i> may include:	<ul style="list-style-type: none"> electronic publishing in this context does not mean the use of page layout applications but rather the development of content to meet the needs of different audiences and different output devices.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Pre-press
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Co-requisite units

Co-requisite units		

ICPPR211C Mount and proof flexographic plates for basic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to mount and proof flexographic plates for routine printing.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare and mount flexographic plates and plate cylinders. Plates are proofed and cylinders are checked for registration.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Prior inspections are completed and signed off
2. Prepare flexographic plates	2.1. Plate height and relief are measured 2.2. Plates are trimmed and prepared according to mounting system requirements 2.3. Mounting adhesive is selected to achieve correct PCD (Pitch Circle Diameter) of specified plate cylinders and gears
3. Prepare plate cylinders	3.1. Plate cylinders/seamless sleeves are selected, cleaned and prepared and correct gears are mounted 3.2. Sleeves and correct gears on mandrels are selected, cleaned, prepared and mounted to meet routine job specifications 3.3. TIR (Total Indicated Runout) is checked to be within specified tolerances on plate cylinders 3.4. Selected mounting adhesive is applied to plate cylinders
4. Mount and/or proof flexographic plates on mounting/proofing machine	4.1. Plates are prepared and mounted on cylinders using pin mount or microdot systems or sleeves according to chart number/print direction OR 4.2. Plate mounting sheet is prepared to meet routine job specifications AND 4.3. Plates are mounted to position on plate mounting sheet or camera targets AND 4.4. Plate mounting sheet is installed and tensioned onto plate cylinder to specified chart number/print direction 4.5. Plates are proofed and each plate cylinder is checked for register 4.6. Flexographic plates are trimmed and taped down according to printing press requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising activities by providing input into production scheduling about time requirements for set up to ensure efficient operation
- teamwork when working with other workers to coordinate set up to ensure efficient operation
- mathematical ideas and techniques by calculating plate position
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- job requirements
- vital information on the job ticket
- checks that were undertaken prior to set up (availability of materials etc.)
- flexographic printing plates and mounting systems
- OHS concerns that are there when mounting and proofing plates
- choosing the correct plates for the job
- the use of cushion type mounting material
- avoiding damage to the plate when mounting plates
- options that are available to seal the edges of plates when mounting
- plate height
- TIR affect on press performance
- the term V-block mounting
- V-block mounting
- proofing and adjustment
- procedures that are followed to have the print approved
- quality control measurements that should be applied to the proof to test against known standards
- checks to be made on the initial print prior to running
- recording the final results for future reference
- minimising registration errors

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• information sources• machine manuals and safety documentation that are relevant to this task and where they are kept• information that is included in these documents• other sources of information that are available |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare and mount flexographic plates and plate cylinders. Produce print direction chart and check registration, if necessary • demonstrate an ability to find and use information relevant to the task from a variety of information sources • mount and proof flexographic plates on TWO occasions for basic jobs, according to enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • flexographic printing machines, pin mounted or microdot mounting systems, print direction chart.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR313C Set up for basic flexographic printing • ICPPR314C Produce basic flexographic printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Jobs may include:	<ul style="list-style-type: none"> • surface prints.
Types of plates may include:	<ul style="list-style-type: none"> • range of plate thicknesses used in flexography • range of mounting adhesives.
Routine may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs that involve routine set up and routine production. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.
Inks/coatings may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in 1-2 colour printing.
Colour matching systems may include:	<ul style="list-style-type: none"> • use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions.
Machines may include:	<ul style="list-style-type: none"> • a range of stack, in-line and central impression flexographic printing machines with various plate cylinder drives and mounting systems.
Design may include:	<ul style="list-style-type: none"> • colours, simple graphics and text. Minor variation in registration and position.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR214C Produce basic flexographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a basic flexographic printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate either a reel or sheet-fed flexographic press ensuring an efficient routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain routine operation of reel system (OR Element 2)	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Prior inspections are completed and signed off
2. Maintain routine operation of sheet system (OR Element 1)	2.1. Plate height and relief are measured 2.2. Plates are trimmed and prepared according to mounting system requirements 2.3. Mounting adhesive is selected to achieve correct PCD (Pitch Circle Diameter) of specified plate cylinders and gears
3. Maintain basic flexographic printing process	3.1. Plate cylinders/seamless sleeves are selected, cleaned and prepared and correct gears are mounted 3.2. Sleeves and correct gears on mandrels are selected, cleaned, prepared and mounted to meet <i>routine</i> job specifications 3.3. TIR (Total Indicated Runout) is checked to be within specified tolerances on plate cylinders 3.4. Selected mounting adhesive is applied to plate cylinders
4. Maintain routine production process	4.1. Plates are prepared and mounted on cylinders using pin mount or microdot systems or sleeves according to chart number/print direction OR 4.2. Plate mounting sheet is prepared to meet routine job specifications AND 4.3. Plates are mounted to position on plate mounting sheet or camera targets AND 4.4. Plate mounting sheet is installed and tensioned onto plate cylinder to specified chart number/print direction 4.5. Plates are proofed and each plate cylinder is checked for register 4.6. Flexographic plates are trimmed and taped down according to printing press requirements
5. Identify and rectify faults	5.1. Problem in flexographic <i>machine</i> operation is identified and reported according to enterprise procedures 5.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Flexographic machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p>
<p>6. Conduct shutdown of production process</p>	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Reels and cores are removed from press if web-fed</p> <p>6.4. Unused ink is drained back to containers and correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>6.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.6. All product is removed from operating area</p>
<p>7. Clean and wash up printing machine at end of print run</p>	<p>7.1. Cylinders or sleeves, plate and roller surfaces are cleaned ready for next run</p> <p>7.2. Inking rollers and doctor blades or chamber blade systems are cleaned with correct solvents according to OHS guidelines</p> <p>7.3. Ink pumps, tanks and hoses are cleaned correctly</p> <p>7.4. Impression rollers/central impression and press rollers are cleaned</p> <p>7.5. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel or sheet-feed transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Press is lubricated and protected according to duration of shutdown</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by coordinating sequences for printing and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables requirements
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- reel transportation and delivery
- OHS concerns that are there when loading and handling heavy reels
- determining the printing side of the substrate
- effect on the print of excessive tension on the unwinding reel
- correct splicing of the web
- sheet transportation and delivery
- OHS factors that need to be considered when operating the sheet transportation and delivery systems
- fanning the sheets before loading into the press
- setting and check to be made to the double sheet detector during the print run
- implications if the web is not spliced correctly
- components that can be adjusted to ensure correct delivery
- effect that excessive suction could have on the slow-down wheels
- flexographic printing operations
- frequency the quality of the product should be assessed
- action that can taken if the print was filling in when printing
- the effect dirt would have under the doctor blade on the print
- doctor blade oscillation
- action that can taken if the ink in the duct is foaming
- signs of wear in the image area of the plate

REQUIRED SKILLS AND KNOWLEDGE

- in-line processes
- OHS concerns for the in-line component of the press
- frequency the in-line components of the job should be examined
- quality control and problem solving
- monitoring to ensure quality
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality
- identifying printed material that is not of an acceptable standard
- marking of product that is deemed unacceptable by the operator
- consultation if there was a problem with the print that was not able to be fixed by the operator
- location of information concerning the correct operation of the machine
- shut down and wash up the press
- dangers that exist from solvents and solutions used to clean the inking system, plate and the press
- methods that are used to ensure proper storage of the plates following printing
- parts of the machine that should be thoroughly cleaned following the print run
- components that are to be inspected for wear following the print run
- records that are important for following or repeat prints
- machine manuals and safety documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • operate either a reel or sheet-fed flexographic press ensuring an efficient production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO basic flexographic printing jobs (if possible including at least ONE in-line process) according to job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU208C Operate and monitor machines (basic)
- ICPPR211C Mount and proof flexographic plates for basic printing
- ICPPR313C Set up for basic flexographic printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Routine</i> may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in 4-colour printing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> • 4 colours, simple graphics and text. Minor variation in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR222C Produce basic gravure printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce routine gravure printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a gravure press ensuring an efficient production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain routine operation of reel system	<p>1.1. Reel stand and rewind section are is monitored and adjusted to ensure efficient continuous operation and to maintain correct tension and to ensure no marks, blemishes or damage to finished product</p> <p>1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation</p> <p>1.3. Substrate is added to and remove from process according to job instructions</p> <p>1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery</p> <p>1.5. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof</p>
2. Maintain basic gravure printing process	<p>2.1. Gravure cylinder condition is monitored and adjusted to ensure the quality of printed product meets the standard of the approved proof</p> <p>2.2. Gravure impression roller condition is monitored and maintained to ensure the quality of printed product meets the standard of approved proof</p> <p>2.3. Gravure inking system and doctor blade are monitored and adjusted to ensure quality of printed product meets the standard of approved proof</p> <p>2.4. Drying systems are monitored and adjusted to ensure quality of printed product meets the standard of approved proof</p> <p>2.5. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure quality of product meets the standard of the approved proof</p>
3. Maintain routine production process	<p>3.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule</p> <p>3.2. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>3.3. Manual and/or automatic control is used as per specification</p> <p>3.4. Performance is monitored and verified using the process control system according to enterprise procedures</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>3.5. <i>Ink</i> performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>3.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>3.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>3.8. Waste is sorted according to enterprise procedures</p>
4. Identify and rectify faults	<p>4.1. Problem in gravure <i>machine</i> operation is identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>4.3. Gravure machine operation is checked to ensure correct operation</p> <p>4.4. Faulty performance of equipment is identified and reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>5.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5. All product is removed from operating area</p> <p>5.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.7. Repair/adjustment is verified prior to resumption of operations</p>
6. Clean and wash up printing machine at end of print run	<p>6.1. Cylinders and roller surfaces are cleaned ready for next run</p> <p>6.2. Inking system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>6.3. In-line printing/converting/binding/finishing units are</p>

ELEMENT	PERFORMANCE CRITERIA
	cleaned ready for next run 6.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 6.5. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing and in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by coordinating sequences for printing and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables requirements
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- reel transportation and delivery
- OHS concerns that are there when loading and handling heavy reels
- determining the printing side of the substrate
- effect on the print of excessive tension on the unwinding reel
- correct splicing of the web
- gravure printing operations
- frequency the quality of the product should be assessed
- action that can taken if the print was filling in when printing
- effect that dirt under the doctor blade would have on the print and the cylinder
- doctor blade oscillation
- addressing a nick in the doctor blade
- action that can be taken if the ink in the duct is foaming
- signs of wear in the image area of the plate
- level the ink level should be maintained
- in-line processes
- OHS concerns for the in-line component of the press
- frequency in-line components of the job should be examined
- quality control and problem solving
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality

REQUIRED SKILLS AND KNOWLEDGE

- identifying printed material that is not of an acceptable standard
- monitoring to ensure quality
- the marking of product that is deemed unacceptable by the operator
- consultation if there was a problem with the print that was not able to be fixed by the operator
- location of information concerning the correct operation of the machine
- shut down and wash up the press
- dangers that exist from solvents and solutions used to clean the inking system, plate and the press
- methods that are used to ensure proper storage of the plates following printing
- parts of the machine that should be thoroughly cleaned following the print run
- components that are to be inspected for wear following the print run
- records that are important for following or repeat prints
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a gravure press ensuring an efficient routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO basic gravure printing jobs (if possible including at least ONE in-line process) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment gravure printing machine with in-line processes.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores

EVIDENCE GUIDE	
	on and off machine
	<ul style="list-style-type: none">• ICPSU208C Operate and monitor machines (basic)• ICPPR321C Set up for basic gravure printing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in 1-2 colour printing.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of in-line gravure printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> • 1-2 colours, simple graphics or text, minor variations in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, board, plastics and related films, or metal.
<i>Routine</i> may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR232C Produce basic lithographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic lithographic printing, including small offset product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a lithographic press ensuring an efficient routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain routine operation of reel system (OR Element 2)	1.1. Reel stand and rewind section are is monitored and adjusted to maintain correct tension and to ensure no marks or blemishes to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain routine operation of sheet system (OR Element 1)	2.1. Feeder and delivery sections are is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from process according to job instructions
3. Maintain basic routine lithographic printing process	3.1. Lithographic plate and plate cylinder condition is monitored and adjusted to ensure the quality of printed product meets the standard of the approved proof 3.2. Lithographic blanket and blanket cylinder condition is monitored and adjusted to ensure the quality of printed product meets the standard of approved proof 3.3. Lithographic impression cylinder condition is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 3.4. Lithographic inking condition is checked and maintained to ensure quality of printed product meets the standard of approved proof 3.5. Lithographic dampening system condition is monitored and adjusted maintained to ensure quality of printed product meets the standard of approved proof
4. Maintain routine production process	4.1. Production process is operated in association with fellow workers and according to company

ELEMENT	PERFORMANCE CRITERIA
	<p>specifications and planned daily schedule</p> <p>4.2. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.3. Manual and/or automatic control is used as per specification</p> <p>4.4. Performance is monitored and verified according to enterprise procedures</p> <p>4.5. In performance, colour, register and position of print are monitored and adjusted maintained throughout production run</p> <p>4.6. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.7. Waste is sorted according to enterprise procedures</p>
5. Rectify minor lithographic machine faults	<p>5.1. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>5.2. Problems with lithographic machine operation is identified and reported according to enterprise procedures</p> <p>5.3. Lithographic machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Unused <i>ink</i> is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.5. All product is removed from operating area</p> <p>6.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.7. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean and wash up printing machine at	7.1. Cylinders, plate and roller surfaces are cleaned ready for next run

ELEMENT	PERFORMANCE CRITERIA
end of print run	<p>7.2. Inking system and dampening system are washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>7.3. <i>In-line</i> printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.4. Reef Reel-fed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.5. Sheet feed, transport and delivery system are disengaged and cleaned ready for next run</p> <p>7.6. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by coordinating sequences for printing and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables requirements
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- reel or sheet transportation and delivery
- OHS concerns when loading and handling heavy reels
- sheets are fanned before loading into the press
- double sheet detector be set and checked during the print run
- effect on the print of excessive tension on the rewinding reel
- implications if web is not spliced correctly
- components that can be adjusted to ensure correct delivery
- effect excessive suction on the slow-down wheels has
- lithographic printing operations
- non-image area of the print was scumming when printing
- causes of emulsification while printing on a lithographic printing press
- signs of wear in the image area of the plate
- level the ink level should be maintained at
- in-line processes
- OHS concerns for the in-line components of the press
- frequency the in-line components of the job should be examined
- quality control and problem solving
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality
- identification of material that is not of an acceptable standard

REQUIRED SKILLS AND KNOWLEDGE

- frequency at which the quality of the product be assessed
- product that is deemed unacceptable by the operator is marked
- finding information concerning the correct operation of the machine
- shutdown and wash-up of the press
- dangers that exist from solvents and solutions used to clean the inking system, plates, cylinders and the press
- effect could excessive gum has on the plate image
- parts of the machine need to be thoroughly cleaned following the print run
- components that are to be inspected for wear following the print run
- records that are important for following or repeat prints
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO basic lithographic printing jobs (if possible including at least ONE in-line process) according to job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • lithographic printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE

for example:

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU208C Operate and monitor machines (basic)
- ICPPR331C Set up for basic lithographic printing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of single sheet, stream and reel-fed machines with manual, semi-automated, fully automated or computerised process control.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in printing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and matching under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> • simple graphics and text. Minor variation in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Routine</i> may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR242C Produce basic pad printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic pad printing product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a pad printing machine ensuring an efficient routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain routine pad printing process	1.1. Location of objects into fixtures is monitored and adjusted if necessary 1.2. Printing plate condition is monitored to ensure the quality of printed product meets the standard of the approved proof 1.3. Printing pad condition is monitored and maintained to ensure the quality of printed product meets the standard of approved proof 1.4. Spatula and doctor blade are monitored and adjusted to ensure quality of printed product meets the standard of approved proof OR 1.5. Ink cup is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 1.6. Printing ink viscosity is monitored and adjusted to ensure quality of printed product meets the standard of approved proof
2. Maintain manual pre- and post-treatments	2.1. Manual loading is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 2.2. Manual pre-treatment is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 2.3. Drying racks are monitored and adjusted to ensure quality of printed product meets the standard of approved proof
3. Maintain routine production process	3.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 3.2. Production is maintained within OHS requirements and company and manufacturer's specifications 3.3. Manual and/or automatic control is used as per specification 3.4. Performance is monitored and verified using the process control system according to enterprise procedures 3.5. Ink performance, colour, register and position of print are monitored and adjusted throughout production run 3.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely

ELEMENT	PERFORMANCE CRITERIA
	<p>intervention</p> <p>3.7.Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>3.8.Waste is sorted according to enterprise procedures</p>
4. Identify and rectify faults	<p>4.1.Problem in pad printing <i>machine</i> operation is identified and reported according to enterprise procedures</p> <p>4.2.Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>4.3.Pad printing machine operation is checked to ensure correct operation</p> <p>4.4.Faulty performance of equipment is identified and reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1.Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2.Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3.Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>5.4.Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5.All product is removed from operating area</p> <p>5.6.Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.7.Repair/adjustment is verified prior to resumption of operations</p>
6. Clean and wash up printing machine at end of print run	<p>6.1.Plates and pads are cleaned ready for next run</p> <p>6.2.Inking system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>6.3.Pre- and post-treatment units are cleaned ready for next run</p> <p>6.4.Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by coordinating sequences for printing and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables requirements
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- major OHS concerns when operating this machine
- where the MSDSs are stored and what information do they contain
- different machine cycle modes
- how the colour density of a light image on a dark substrate can be improved by selection of a different machine cycle mode
- selecting the appropriate machine cycle mode to provide the highest production output for a particular product
- correct ink viscosity
- correcting ink viscosity during production
- causes of unreleased ink remaining on the printing pad and how you identify them
- recognising a damaged pad
- correct method of cleaning a pad during production
- pre- and post-treatment requirements
- simple pre-treatment that is commonly required for injection-moulded objects
- period the ink on the job takes to cure before scratch and adhesion tests can be performed
- print problem identification and correction
- effects that will be visible in the image if the ink viscosity is incorrect
- adjusting the machine to correct a shift in the image position on the product
- in Machine manuals, safety and other documentation are relevant to this task and

REQUIRED SKILLS AND KNOWLEDGE

where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a pad printing machine ensuring an efficient 1-colour production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO basic pad printing jobs (if possible on different substrates) to meet job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU202C Prepare, load and unload product on and

EVIDENCE GUIDE	
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|--|---|
| | off machine |
| | <ul style="list-style-type: none">• ICPSU208C Operate and monitor machines (basic)• ICPPR341C Set up for basic pad printing. |

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in single colour printing.
<i>Pre and post-treatment processes</i> may include:	<ul style="list-style-type: none"> range of pre- and post-treatment processes commonly used in pad printing.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated or computerised operation.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> single colour, simple graphics and text. Minor variations in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.
<i>Routine</i> may include:	<ul style="list-style-type: none"> routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR261C Set up for foil stamping

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for gold blocking and hot foil stamping.
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Application of the Unit

Application of the unit	This unit requires the individual to set up a die or block and the reel or sheet systems and jigs for gold blocking or hot foil stamping. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up machine	2.1. Die or block is selected and checked against job ticket 2.2. Die or block is locked into chase and checked for correct positioning 2.3. Chase is mounted in press 2.4. Foil transfer or feed system is set up and adjusted according to image size and job specifications 2.5. If required, <i>in-line</i> loading and ejection units are set up for basic processes and adjusted according to machine requirements and job specifications
3. Set up reel system (OR Element 4 OR Element 5)	3.1. Unwind and rewind reels are set up and adjusted according to job specifications 3.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 3.3. Reels are spliced/joined according to job specifications 3.4. Printed web viewing devices are set up and adjusted according to job specifications 3.5. Folder and sheeter are set up and adjusted suit job specifications 3.6. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Set up sheet system (OR Element 3 OR Element 5)	4.1. Feeder and delivery is set up and adjusted according to job specifications 4.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 4.3. Transfer and control systems are set up and adjusted according to job specifications 4.4. Set off/marketing prevention devices are set up and adjusted according to job specifications 4.5. <i>Substrate</i> is added to and removed from process according to job instructions
5. Set up product jigs	5.1. Jigs are selected to suit product to be stamped

ELEMENT	PERFORMANCE CRITERIA
onto machine table (OR Element 3 OR Element 4)	<p>5.2. Jigs are fitted to machine table according to job specifications</p> <p>5.3. Table height is adjusted to suit product</p>
6. Select foils	<p>6.1. Foils are selected according to job specifications and end-user requirements</p> <p>6.2. Quality and suitability of foils are checked and appropriate action is taken</p> <p>6.3. Foils are selected according to suitability of substrate, physical and chemical performance and properties</p> <p>6.4. Foils are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>6.5. Foils are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
7. Conduct proof run	<p>7.1. Material to be used for proof is organised correctly</p> <p>7.2. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>7.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures</p> <p>7.4. Production does not commence without client OK or authority where appropriate</p> <p>7.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications to determine adjustment requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about foil stamping process and machine specifications and characteristics and how these interact
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating die position and requirements for foil and substrate
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- job specifications
- procedures if vital information were missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc.)
- web or sheet or product transportation (as relevant)
- major OHS concerns when setting up transportation systems
- printing side of the material
- purpose of nip rollers
- how the sheet position is determined for the job
- why the same side lay is used in both print and foil stamping
- selection of appropriate front lays
- how high the side and front lays are to be set
- register check be carried out
- appropriate product jigs
- correct table height
- foils and substrates
- characteristics that must be considered when selecting foil for foil stamped product
- type of foil that would be required for foiling on plastic films
- products and the appropriate foils
- machine set up

REQUIRED SKILLS AND KNOWLEDGE

- OHS concerns related to the set up
- effect of a soft packing on the foil stamped product
- methods that can be used to create harder packing
- effect a higher dwell time has on the foil stamped product
- what temperature would be the starting point when setting up
- implications if the temperature was set too high
- height that the die should be mounted
- required pressure
- proofing and adjusting
- precautions that should be taken to protect from burns
- not using the first sheet or object printed as a proof during set up
- cause of an uneven print (top to bottom)
- length of time for temperature adjustments to become effective
- signs of a temperature setting that is too high
- how much the foil should draw through the press on each pass
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up a die or block and the reel or sheet systems and jigs for gold blocking or hot foil stamping. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up for foil stamping on TWO occasions (if possible including at least ONE in-line process if relevant) according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • gold blocking or hot foil stamping machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPSU201C Prepare, load and unload reels and cores on and off machine• ICPSU202C Prepare, load and unload product on and off machine• ICPSU207C Prepare machine for operation (basic)• ICPPR262C Produce foil stamped product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of foil stamping machines, including machines with computerised monitoring and/or control.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide or narrow reel or large or small sheet or 3D object handling systems.
<i>Foils</i> may include:	<ul style="list-style-type: none"> range of foils used in gold blocking and hot foil stamping.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, wood, plastics and related films, metal injection moulded plastics, moulded plastics, lacquered substrate.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and matching under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> simple graphics and text. Minor variation in registration and position.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR262C Produce foil stamped product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce gold blocking and hot foil stamping product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a gold blocking or hot foil stamping machine ensuring an efficient production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel system (OR Element 2 OR Element 3)	1.1. Reel stand and rewind section is monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web and efficient operation 1.3. Substrate is added to and removed from process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery 1.5. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
2. Maintain operation of sheet system (OR Element 1 OR Element 3)	2.1. Feeder and delivery is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from process according to job instructions 2.5. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
3. Maintain in-line loading and ejection (OR Element 4 OR Element 5)	3.1. In-line loading is monitored and adjusted to ensure quality and efficient product delivery 3.2. In-line ejection is monitored and adjusted to ensure quality and efficient product delivery
4. Maintain production process	4.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 4.2. If necessary, the location of objects into fixtures/jigs is monitored and adjusted 4.3. Foil transfer system is monitored and adjusted to ensure quality of printed product meets the standard of

ELEMENT	PERFORMANCE CRITERIA
	<p>approved proof</p> <p>4.4. Basic in-line printing/converting/binding/finishing process(es) are monitored and adjusted to ensure quality of product meets the standard of the approved proof</p> <p>4.5. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.6. Manual and/or automatic control is used as per specification</p> <p>4.7. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.8. Foil performance and position of print are monitored and adjusted throughout production run</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>5.2. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>5.3. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.4. Problem in foil stamping machine operation is identified and reported according to enterprise procedures</p> <p>5.5. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>5.6. Foil stamping machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Unused foil is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.4. Waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.5. All product is removed from operating area</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>6.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.7. Repair/adjustment is verified prior to resumption of operations</p>
<p>7. Clean printing machine at end of print run</p>	<p>7.1. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.2. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run OR</p> <p>7.3. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run OR</p> <p>7.4. Jig and conveyors are disengaged and cleaned ready for next run</p> <p>7.5. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- maintaining in-feed and delivery of reel or sheet or 3D object transportation section
- OHS concerns when operating a transportation system
- why sheets are fanned before loading into the press
- affect the printing of double sheets has on the foil stamped product
- why tracking of the web is important to position and register
- implications if the web is not spliced correctly
- identification that should be used for web splices
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality
- if sheeted, components that can be adjusted to ensure correct delivery
- how printed material that is not of an acceptable standard is identified
- aspects of loading and ejection that need to be monitored
- maintaining the foil stamping process
- major OHS concerns when foil stamping
- considerations that will contribute to determining the ideal press speed
- interval that the product be checked for consistency
- cause of the non-image areas of the print filling in
- remedial action to be taken if the edges of the print were jagged

REQUIRED SKILLS AND KNOWLEDGE

- use of anti set off spray not recommended when foil stamping
- adjusting the machine to correct a shift in the image position on the object
- shutdown and cleaning of the press
- dangers that exist from solvents and solutions used to clean the press and printing dies
- how dies should be stored following printing
- effect of poorly stored dies
- parts of the machine to be thoroughly cleaned following the print run
- components to be inspected for wear following the print run
- records that are important for following or repeat prints
- machine manuals, safety and other documentation that are relevant to this task

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a gold blocking or hot foil stamping machine ensuring an efficient production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO foil stamped products (if possible including at least ONE in-line process if relevant) according to job specifications, enterprise procedures and the Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a gold blocking or hot foil stamping machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores on and off machine ICPSU202C Prepare, load and unload product on and

EVIDENCE GUIDE	
	off machine <ul style="list-style-type: none">• ICPSU208C Operate and monitor machines (basic)• ICPPR261C Set up for foil stamping.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet or 3D object handling systems.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of foil stamping machines, including machines with computerised monitoring and/or control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Foils</i> may include:	<ul style="list-style-type: none"> • range of foils used in gold blocking and hot foil stamping.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and matching under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> • simple graphics and text. Minor variation in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, wood, plastics and related films, metal injection moulded plastics, moulded plastics, lacquered substrates.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> • working to defined procedures under limited supervision.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR271C Set up for basic coating

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for routine spot or overall coating.
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Application of the Unit

Application of the unit	This unit requires the individual to set up rollers and the reel or sheet systems for coating a range of aqueous coatings, UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 2.3. Reels are spliced/joined according to job specifications 2.4. Printed web viewing devices are set up and adjusted according to job specifications 2.5. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery is set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer and control systems are set up and adjusted according to job specifications 3.4. Substrate is removed from process according to job instructions 3.5. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Select and prepare coating	4.1. Coating is selected according to job specifications and end-user requirements 4.2. Quality and suitability of coating is checked and appropriate action is taken 4.3. Coatings and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct weight/volume of coating is prepared to match the requirements of the job specification and the coating process 4.5. Check the viscosity of coating is correct for the job 4.6. Formulation of the coating is appropriately recorded

ELEMENT	PERFORMANCE CRITERIA
5. Set up machine for coating	<p>5.1. Appropriate rollers/cylinders are selected and secured to the <i>machine</i> and set</p> <p>5.2. Application system is set up and adjusted according to job specifications</p> <p>5.3. Coating delivery system is set up with correct flow and return flow determined by air pressure or pump speeds and adjusted according to job specifications</p> <p>5.4. Cut a coating blanket or install a plate for non-image areas</p> <p>5.5. Check that blanket or plate packing is suitable to the job</p> <p>5.6. Check that the coating temperature is suitable for the job</p> <p>5.7. Drying system is set up and adjusted according to job specifications</p>
6. Conduct proof run	<p>6.1. Material to be used for proof is organised correctly</p> <p>6.2. Machine is set up and operated to produce a specified proof according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>6.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures</p> <p>6.4. Production does not commence without client OK or authority where appropriate</p> <p>6.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications</p> <p>6.6. Adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about coating process and machine specifications and characteristics and how these interact
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating plate position and coating viscosity
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- job specifications
- where on the work ticket is the information listing the type of coating required
- procedures if vital information were missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc)
- sheet or reel transportation
- major OHS concerns when setting up the sheet or reel transportation system
- choosing the coating side of the material
- effect of low web tension on the print
- effect of inefficient web splices
- sheet or reel position for the job
- appropriate front lays
- carrying out a register check
- reasons for a two-sheet cut out on most feeders (sheet)
- machine knowing if a sheet is missing or late
- machine knowing if there has been a web break
- sheet or reel delivery
- safety risks associated with the rewind of the machine
- affect of excessive web tension at the rewind of the machine
- effect that too much vacuum on the slow-down wheels will have on the job

REQUIRED SKILLS AND KNOWLEDGE

- determining the position of register or bustle wheels
- excessive jogging
- coating preparation
- OHS concerns are relevant to the use of coatings
- types of coating
- suitability of coating for the job
- ability of the coat to adhere to the product determined
- amount of coating required
- range of viscosities to be run with on aqueous coatings
- effect of incorrect viscosity
- adjusting the viscosity of a coating
- machine set up
- methods for solidifying a coating
- drying UV coating
- printing principles
- aqueous coating
- temperature the drier set at to dry aqueous coating
- image carrier (plate or blanket)
- proofing and adjustments
- position of the coating checked against the print
- effect skeleton wheels could have on the surface of the coating
- measuring the amount of gloss on the surface
- responsibility for the final "OK" on the job
- effect when you don't have enough coating on a sheet
- effect that a UV coating would have on a wet print
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up rollers and the reel or sheet systems for coating a range of aqueous coatings, UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up for TWO basic coating operations (one spot coating and one overall coating and if possible including at least ONE in-line process) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • printing machines or dedicated coating machines.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE

for example:

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU207C Prepare machine for operation (basic)
- ICPSU211C Prepare ink and additives
- ICPPR272C Produce basic coated product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> narrow or wide reel handling, and small and large sheet systems.
<i>Coatings</i> may include:	<ul style="list-style-type: none"> a range of aqueous coatings, UV varnishes and machine varnishes.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of printing machines or dedicated coating machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and densitometry to match basic standard tints under controlled lighting conditions.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> paper and paper board and other substrates as appropriate.
<i>Routine</i> may include:	<ul style="list-style-type: none"> routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR272C Produce basic coated product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic spot or overall coated product.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a basic coated product on either a reel- or sheet-fed machine ensuring an efficient production flow that maintains product quality standards. Any production problems are identified and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel system (OR Element 2)	1.1. Reel stand and rewind section is monitored and adjusted to maintain correct tension and to ensure no marks or blemishes to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain operation of sheet system (OR Element 1)	2.1. Feeder and delivery is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from process according to job instructions
3. Maintain coating process	3.1. Roller condition is monitored and adjusted to ensure the quality of printed product meets the standard of approved proof 3.2. Coating system is monitored and adjusted to ensure quality of product meets the standard of approved proof 3.3. Drying systems are monitored and adjusted to ensure quality of product meets the standard of approved proof 3.4. Quality and viscosity of varnish are monitored and adjusted as necessary to ensure quality of product
4. Maintain production process	4.1. If required, basic or complex in-line printing/converting/binding/finishing processes are monitored and adjusted to ensure quality of product meets the standard of the approved proof 4.2. If required, delivery is monitored and adjusted to ensure quality and efficient product delivery 4.3. Production process is operated in association with fellow workers and according to company

ELEMENT	PERFORMANCE CRITERIA
	<p>specifications and planned daily schedule</p> <p>4.4. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.5. Manual and/or automatic control is used as per specification</p> <p>4.6. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.7. Coating performance, register and position of coating are monitored and adjusted throughout production run</p> <p>4.8. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.9. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.10. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.2. Problems in coating machine are identified and reported according to enterprise procedures</p> <p>5.3. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>5.4. Coating machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. All product is removed from operating area</p> <p>6.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.6. Repair/adjustment is verified prior to resumption of operations</p>

ELEMENT	PERFORMANCE CRITERIA
7. Clean and wash up coating machine at end of print run	7.1. Cylinders, plate and roller surfaces are cleaned ready for next run 7.2. Coating delivery system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements 7.3. In-line slitting units are cleaned ready for next run 7.4. Reef feed, transportation and delivery systems are disengaged and cleaned ready for next run 7.5. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and coating processes to ensure efficient production
- planning and organising activities by coordinating sequences for coating and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables requirements
- problem-solving skills by identifying coating problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- interpreting job information
- required action if vital information was missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc.)
- reel or sheet transportation and delivery
- OHS concerns that are there related to loading and handling heavy reels
- sheets fanned before loading into the press
- important that the double sheet detector be set and checked during the print run
- effect on the print of excessive tension on the rewinding reel
- implications if the web is not spliced correctly
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality
- if sheeted, components that can be adjusted to ensure correct delivery
- how printed material that is not of an acceptable standard identified
- maintaining coating operations
- major OHS concerns when coating
- action could be taken if the aqueous coating was smudging on the delivery section of the machine
- effects of anti set off spray on the finished job
- level the coating should be maintained in the pan
- effect UV lamp has on the UV coating

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• wash-up and shutdown of machine• dangers that exist from solvents and solutions used to clean the coating system, plates, cylinders and the press• parts of the machine that should be thoroughly cleaned following the coating of the job• components to be inspected for wear following the print run• records that are important for following or repeat prints• machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> produce a basic coated product on either a reel- or sheet-fed machine ensuring an efficient production flow that maintains product quality standards. Any production problems are identified and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources competency on elements and performance criteria is achieved within the limitations of the process or machinery used produce TWO basic coating jobs (one spot coating and one overall coating and if possible including at least ONE in-line process) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a print machine or a dedicated coating machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU208C Operate and monitor machines (basic)
- ICPPR271C Set up for basic coating.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> narrow or wide reel handling, and small and large sheet systems.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of printing machines or dedicated coating machines with manual, semi-automated, fully automated or computerised process control.
<i>Coatings</i> may include:	<ul style="list-style-type: none"> a range of aqueous coatings, UV varnishes and machine varnishes.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and densitometry to match basic standard tints under controlled lighting conditions.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> paper and paper board and other substrates as appropriate.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR282C Produce and manage basic digital print

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce and manage digital print for a basic print production environment.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to produce and manage digital printing systems to achieve maximum productivity. The individual will perform troubleshooting and conduct maintenance, manage digital print client service operations, construct a range of electronic data files, perform basic colour management techniques, design electronic workflow systems, produce and manage a print run and coordinate finishing and delivery.</p> <p>The competency is best applied in the instant printing and copy shop business environment.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Troubleshoot and maintain operations of a digital print system	<p>1.1. Errors in operation of the hardware and consumable components in the printing module of a digital printing system are identified and rectified</p> <p>1.2. The source of errors related to the <i>electronic data file</i>, digital front end, workstation or industry software or hardware printing systems is located and rectified and/or technical assistance is coordinated according to <i>manufacturer's specifications</i></p> <p>1.3. Preventive maintenance is performed according to manufacturer's specifications to ensure digital print system functions at optimum productivity with minimum downtime and wastage</p> <p>1.4. Incompatibilities between versions of hardware and software used in digital printing are identified and rectified</p>
2. Liaise with clients	<p>2.1. Print service and quality expectations are clearly communicated to a client according to <i>enterprise procedures</i></p> <p>2.2. Advice is provided to clients on how to set up electronic data files for digital printing according to enterprise procedures, manufacturer's specifications and digital print equipment capabilities</p> <p>2.3. Advice is provided to clients on appropriate <i>substrates</i> and document finishing methods for digital printing jobs, according to the client's budget and job specifications</p>
3. Perform basic electronic document impositions	<p>3.1. Electronic file imposition using a range of industry software is completed according to job specifications</p> <p>3.2. Document finishing requirements for an imposed digital print job are finalised with co-workers or external services, if required, according to equipment availability and enterprise procedures</p>
4. Perform basic digital colour management	<p>4.1. RGB, CMYK and PMS colour charts are outputted and differences between computer monitor colour and digitally printed colour are adjusted</p> <p>4.2. Common problems of colour digital printing are rectified and communicated to clients according to job specifications</p>
5. Access and verify electronic data files	<p>5.1. A workstation computer and industry software are used to locate and retrieve electronic data files according to job specifications</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>5.2. A digital front end processor is used to locate and retrieve electronic data files according to job specifications</p> <p>5.3. Preview or pre-flight check of electronic data files is performed to verify correct job set up according to job specifications</p> <p>5.4. Basic troubleshooting methods are applied to identify unverified data files, file errors and job requirement inconsistencies according to manufacturer's specifications</p>
6. Submit data files to a digital print system	<p>6.1. Job priority is determined according to job specifications and production schedules</p> <p>6.2. Data files are submitted to print and image quality and <i>machine</i> productivity checks are performed</p>
7. Produce digital proof and run print job	<p>7.1. A proof run is conducted to confirm proof conforms to job specifications and/or for client approval, if required</p> <p>7.2. A print run is conducted according to job specifications ensuring that machine productivity and quality are monitored and rectified throughout the duration of the print job</p>
8. Coordinate and/or perform document finishing and client delivery	<p>8.1. The steps required for document finishing if not performed on <i>in-line</i> finishing units are determined on a web or sheet-fed system according to enterprise procedures</p> <p>8.2. Finished print work is packaged in a manner to prevent damage and to conform to delivery requirements according to job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal and external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating electronic file memory requirements for print job management and scheduling
- problem-solving skills by defining whether printing or data processing faults minimise machine downtime and wastage
- use of technology by using software to construct electronic files for digital printing

Required knowledge

- troubleshooting and problem solving
- safety devices that need to be in place when working on the machine
- paper misfeed, how to access and clear it
- problems with front to back registration
- problems that can occur if substrate weight and machine specifications do not match
- problems that can occur downloading files from a digital front end and how can they be solved
- distinguishing between a problem with downloading from a digital front end and a problem with the printing module
- action if a digital front end loses communication with the printing module
- quality control
- precautions that can be taken to maintain fit, proportion and position of printed images
- ensuring that the machine has been calibrated to manufacturer's specifications
- what to do if image colour is not consistent
- ensuring that correct dimensions and measurements have been set up in the pre-press stage
- quality issues that can arise if improper substrate handling procedures are not

REQUIRED SKILLS AND KNOWLEDGE

- performed
- information sources
- machine manuals, safety and other documentation that are relevant to machine operation and maintenance and where are they kept
- finding information relating to industry software applications
- incorrect version of software or need an update, locating and acquiring this
- other sources of information can you identify
- job requirements and processing systems
- actions if vital information was missing from the job ticket (manual or electronic)
- checks to be undertaken prior to set up (availability of material, maintenance)
- file does not transfer correctly action should to be taken to correct the problem
- data access and manipulation
- checks to be made to ensure the data is in a format that can be used in digital printing
- benefits of using electronic data rather than scanning hard copy
- ways to submit a PDF file to the digital printer
- communication and client interaction
- measure that can be taken to ensure clients have correct procedures for providing electronic files
- explaining to a client about differences in colour displayed on a computer monitor to printed output
- recommendations to a client who has created an electronic file in an incompatible software application
- estimating a turnaround time for a client with a tight deadline
- steps that would need to be followed for a client approval of the print
- proofing and adjustment
- circumstances where a job would be modified before printing
- why margins would be changed when the job reaches the printer
- what the proof checked against
- final approval for basic jobs
- adjusting colour, toner/ink coverage or density problems
- substrate transportation, delivery, in-line and on-line processes
- actions if the required substrate were unavailable
- maximum and minimum weight of substrate that can be printed on a specific machine
- maximum feeding and delivery quantities for the machine
- possible problems with incorrect feeding and delivery
- OHS procedures to be followed when setting up in-line processes
- in-line options are available on the machine
- on-line finishing options that are available on the machine
- document finishing and client delivery

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• various types of binding• procedures that would be followed if the binding method required by the client was not available at your site• options that could you suggested if the document size was too thick to staple?• packaging of finished print work is important |
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Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- produce electronic data files and manage digital workflows in the digital print production environment. Communicate clearly and professionally with clients. Design and implement efficient electronic workflows for a range of electronic file types. Access and verify data. Conduct a digital proof run. Produce and manage a digital print run. Manage and coordinate document finishing and delivery
- demonstrate use of computerised control and monitoring systems if available and appropriate
- demonstrate an ability to find and use information relevant to the task from a variety of information sources
- produce a flowchart that demonstrates FOUR examples of digital print workflows for digital printing (one basic document file, one variable data document file, one colour document file and one electronically imposed document file)
- create and print a document that provides information to clients on digital print services available and outlines correct methods for submitting electronic files to the services available
- electronically construct, digitally print and coordinate finishing for the following set of business stationery that has text and graphic elements:
 - four-colour A4 Letterhead, which includes static text and graphic elements and variable data name and address elements. Minimum variable components - 10
 - 100 four-colour business cards with crop marks. Maximum number of business cards to the maximum sheet size of the printer eg 20 cards on SRA3
 - four-colour 16-page A4 business proposal

EVIDENCE GUIDE	
	<p>document, perfect bound with own choice of binding</p> <ul style="list-style-type: none"> • four-colour 4-page advertising brochure using saddle stitch binding method printed on A4 or A3 substrate size • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a digital printing machine and digital front end.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine • ICPSU202C Prepare, load and unload product on and off machine • ICPSU208C Operate and monitor machines (basic) • ICPPR281C Set up and produce basic digital print • ICPPR383C Prepare for personalised digital printing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Electronic data files</i> may include:	<ul style="list-style-type: none"> range of proprietary or non-proprietary data file formats compatible with a range of workstation computers and industry software.
<i>Manufacturer's specifications</i> may include:	<ul style="list-style-type: none"> technical, administrator and user specifications documented by a manufacturer for a range of printing machines.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> may include rules, standards, OHS guidelines, communication protocols and behaviour codes of a range of workplace environments.
<i>Substrates</i> may include:	<ul style="list-style-type: none"> range of print media and paper.
<i>Inking systems</i> may include:	<ul style="list-style-type: none"> range of toners commonly used in 2-colour printing, including special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of non-impact printing machines including inkjet and laser with or without colour manipulation capability, and including machines with computerised monitoring and/or control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor in-line processes such as perforating, numbering, date coding and imposition that do not constitute another defined unit of competency. Major in-line process is defined as a separate competency eg flat-bed cutting, folding.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and matching under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> simple graphics and text. Minor variation in registration position.
<i>User replaceable consumables</i> may include:	<ul style="list-style-type: none"> consumables required to be changed by an individual if damaged or reached expiry. Used by a range of printing machines for correct functioning such as ink, toner, developer, waste toner, cleaning web, fuser, substrates.
<i>User control interface</i> may	<ul style="list-style-type: none"> computerised monitoring and data entry

RANGE STATEMENT	
include:	device used to enter machine default settings, job specification settings, monitor machine status and perform machine productivity enhancements.
<i>Registration mechanisms</i> may include:	<ul style="list-style-type: none"> mechanical and/or electronic controls used to adjust substrate position throughout substrate feeding and transport units of a range of printing machines.
<i>Calibration</i> may include:	<ul style="list-style-type: none"> mechanical and/or electronic and/or visual controls used to identify and correct ink coverage and density inconsistencies in a range of printing equipment.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR283A Use digital media consumables

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to use digital media consumables, such as printing substrates and inks/toners. It relates to monitoring stock levels and correctly loading and using digital media consumables.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the selection, usage and storage of digital consumables for individuals working in the digital sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and select consumables	<p>1.1. Required <i>consumables</i> are identified in consultation with appropriate personnel and in accordance with manufacture's and/or job specifications</p> <p>1.2. Consumables are selected and confirmed that they correspond with identified needs</p>
2. Use consumables	<p>2.1. Consumables are prepared and loaded according to occupational health and safety (OHS) requirements and manufacturer's and enterprise procedures and specifications</p> <p>2.2. <i>Faulty product</i> is visually identified and removed</p> <p>2.3. Incorrect substrate usage is identified and then rectified</p>
3. Monitor consumables storage and levels	<p>3.1. Stock levels are monitored to enterprise requirements</p> <p>3.2. Consumables are recorded and stored according to manufacturer's specifications</p> <p>3.3. <i>Appropriate personnel</i> are informed of low stock levels and measures taken to increase levels of stock</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to loading consumables safely
- communication skills when reporting low stock levels to appropriate personnel
- planning and organising activities by providing information about time and material requirements for set-up, production and finishing to ensure efficient operation
- teamwork skills when maintaining the production process in association with other workers
- mathematical ideas and techniques by calculating consumables needed for a production run
- use of technology by using digital printing devices
- problem-solving skills by recognising faulty printing and determining whether consumables are the cause

Required knowledge

- OHS factors that need to be addressed when using and loading consumables
- location of material safety data sheets (MSDS)
- location of manuals, safety and other documentation and the information included in these documents that are relevant to digital media consumables
- various consumables used in the digital sector
- types of consumables used for each printing and/or finishing device
- which substrates perform better for a particular printing device
- printing faults that can occur due to using the wrong substrate
- printing faults that can occur due to poor storage of consumables
- various inks and toners used in the digital sector
- advantages and disadvantages of the various ink types

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • identify, use and store consumables used in a digital workflow • monitor stock levels of consumables • find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for colour management production • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence • third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate in using and monitoring digital media consumables.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR286A Finish a digital product. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Consumables</i> may include:</p>	<ul style="list-style-type: none"> • ink • toner • developer • waste toner • fuser oil • substrates • staples • binding wire and combs.
<p><i>Faulty product</i> may include:</p>	<ul style="list-style-type: none"> • inks that perform poorly that may be due to expiry date • substrates with visual faults, such as: <ul style="list-style-type: none"> • tears and scratches • moisture damage • tangled and/or bent binding wire.
<p><i>Appropriate personnel may include:</i></p>	<ul style="list-style-type: none"> • supervisor • manager • team leader • store personnel.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR284A Introduction to colour management

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to identify and apply the fundamental theory of colour in the printing industry. This includes terminology, colour modes and the analysis of light and colour.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the basic use of colour when creating layouts for individuals working in the printing and graphic arts sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the need for colour management	<p>1.1. The varied colour representation of <i>devices</i> are identified and recorded</p> <p>1.2. Colour inconsistencies between input, display and output devices and the final printed product are identified and rectified</p> <p>1.3. The <i>components</i> of a colour management system are identified and suggestions made to improve <i>workplace practices</i></p>
2. Use colour modes and libraries	<p>2.1. Varying <i>colour modes and libraries</i> are used according to job specifications</p> <p>2.2. Images are converted between colour modes using a <i>process</i> to ensure the best reproduction according to job specifications</p> <p>2.3. Colour libraries are selected and used within software applications according to job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) in relation to using correct ergonomics when operating the computer
- communicating ideas and information, having considered all the fundamentals of colour theory
- collecting, analysing and organising skills in relation to the fundamentals of colour theory
- planning and organising skills for identifying and clarifying colour requirements
- teamwork skills for maintaining the production process in association with others
- problem-solving skills for diagnosing and correcting colour problems
- technical skills for using software and hardware correctly to ensure consistency of output

Required knowledge

- components of a colour management system
- terminology associated with colour management
- standard lighting conditions for matching colour
- effects different lighting conditions have on monitors, proofing and printing
- measurement of light intensity and colour temperature
- difference between red, blue, green (RGB), cyan, magenta, yellow, black (CMYK) and LAB colour
- different rendering intents and their application
- under colour removal (UCR) and grey component replacement (GCR) and what effect they have on an image
- different Pantone libraries and their application
- OHS issues needed to be considered when managing colour for digital production

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- identify the need and components of a colour management system
- select and convert images to appropriate colour modes
- select colour libraries that comply with specific job specifications
- locate and use information relevant to the task from a variety of information sources.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for colour management production
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when converting images between colour modes.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended, for example:

- digital production or pre-press units that require the application of colour.

For valid and reliable assessment of this unit, evidence

EVIDENCE GUIDE	
	should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Devices</i> may include:	<ul style="list-style-type: none"> • monitors • proofers • printers • scanners • digital cameras • digital presses • printing presses.
<i>Components</i> may include:	<ul style="list-style-type: none"> • standardised viewing environment • calibrated and profiled output devices, such as printers and presses • calibrated and profiled input devices, such as scanners and cameras • calibrated monitors • software applications that support colour management • colour profiles.
<i>Workplace practices</i> may include	<ul style="list-style-type: none"> • establishment of colour managed workflow • calibration and regular recalibration of devices • adoption of recognised colour standard, such as AS ISO 12647-2.
<i>Colour modes and libraries</i> may include:	<ul style="list-style-type: none"> • RGB • CMYK • LAB • Pantone.
<i>Process</i> may include:	<ul style="list-style-type: none"> • selection of colour mode and rendering intent • converting using profiles.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR285A Use digital workflow

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to apply digital workflow from concept stage to completion and delivery. It focuses on a basic knowledge and the application of digital workflow that could include customer service, job generation, printing, finishing and dispatch. It relates only to the ability to conform to work procedures, not planning digital workflow.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the application of workplace procedures and workflow for individuals working in commercial print, pre-press, bureau, high-end digital print or a combination of these business environments.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for digital workflow	1.1. Work instructions and operational details are obtained and confirmed 1.2. Production processes required for the job are identified and recorded 1.3. Equipment to carry out tasks is selected to meet job requirements, checked for serviceability and any faults are rectified or reported prior to commencement 1.4. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use 1.5. Material quantity requirements are calculated according to plans and/or specifications 1.6. Safety requirements are followed according to safety plans and policies
2. Follow digital workflow	2.1. Work plan is determined, modified and performed in a logical and efficient sequence 2.2. Tasks are completed and checked for compliance against work instructions
3. Maintain the workplace	3.1. Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan 3.2. Equipment is cleaned, checked, maintained and stored according to manufacturer's recommendations and standard work practices

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) in relation to using correct ergonomics when operating the computer
- communication of ideas and information by dealing with clients
- collecting, analysing and organising information by successfully storing and retrieving files
- planning and organising activities by completing work tasks efficiently
- teamwork skills when maintaining the digital workflow in association with others
- mathematical ideas and techniques when calculating required materials for a job
- problem-solving skills used when fixing file errors
- self-management and learning skills to evaluate and enhance personal effectiveness
- using technology when utilising computer to produce a job

Required knowledge

- different procedures within a digital workflow
- order in which procedures are undertaken within a digital workflow
- types of equipment used in a digital workflow
- types of software used in a digital workflow
- printing processes that can be used within a digital workflow
- binding and finishing techniques that can be used within a digital workflow

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> follow a digital production workflow and produce work to an enterprise standard find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment and materials used in a digital production workflow, such as high-end graphics and layout software, digital output devices and finishing equipment use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate following a digital production workflow.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p> <ul style="list-style-type: none"> ICPPR384A Set up produce and basic digital print ICPPR385A Apply software applications to digital production. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent</p>

EVIDENCE GUIDE

performance.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Production processes may include:

- client liaison
- electronic file creation
- proofing
- printing
- binding and finishing
- dispatch.

Equipment may include:

- computers
- digital printing devices
- binding and finishing equipment.

Materials may include:

- substrates
- staples
- binding wire
- combs.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR286A Finish a digital product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to finish a digital print product. This could include trimming, folding, padding, stapling, comb and wiro binding.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the converting and finishing of digitally printed products in a digital environment.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for job	1.1. Job specifications are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related materials is checked and recorded
2. Produce a test copy	2.1. Materials to be used for the job are identified and organised correctly 2.2. Equipment is set up and operated to produce a specified sample according to occupational health and safety (OHS) requirements, manufacturer's specifications and enterprise procedures 2.3. Sample is inspected and/or tested to ensure the job meets job specifications and enterprise standards 2.4. Results are interpreted to determine adjustment requirements 2.5. Adjustments are carried out according to product and equipment specifications
3. Maintain finishing process	3.1. Finishing is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.2. Performance is monitored and verified using the process control system according to enterprise procedures 3.3. Finishing difficulties are anticipated and action is taken to prevent occurrence by timely intervention 3.4. Process adjustments to eliminate problems are reported according to enterprise procedures 3.5. Faulty performance of equipment is identified and reported according to enterprise procedures 3.6. Waste is sorted according to enterprise procedures 3.7. Production records or other documentation are accurately completed where required by enterprise procedures
4. Identify and rectify problems and faults	4.1. Problems with finishing equipment are identified and reported according to enterprise procedures 4.2. Adjustments or corrections are carried out according to specified procedures and are consistent with operator's skill level 4.3. Finishing equipment operation is checked to ensure

ELEMENT	PERFORMANCE CRITERIA
	correct operation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for reporting faulty equipment performance and completing production records and other documentation
- planning and organising skills for providing information about time and materials requirements for set up, production and finishing to ensure efficient operation
- teamwork skills for maintaining the production process in association with other workers
- numeracy skills for calculating production run and completing documentation
- technical skills for using electronic finishing equipment
- problem-solving skills for recognising finishing faults and determining adjustments

Required knowledge

- OHS factors needed to be addressed when adjusting machinery
- safety measures that should be taken when setting up and operating finishing equipment
- information concerning binding that is found in the job documentation or production control system
- circumstances in which a machine needs to be adjusted
- factors that determine the correct binding technique for a job
- advantages and disadvantages of wiro and comb binding
- advantages and disadvantages of saddle and side stitching
- problems that may occur when folding a digitally printed job
- effect heat may have on a digitally printed product
- correct cutting sequence and lay edges when trimming a job
- grain direction in paper and board
- effects of grain direction on finishing processes
- different types of finishing adhesives and their applications
- problems that can occur if equipment is not properly cleaned and maintained
- location of manuals, safety and other documentation relevant to digital product finishing

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- correctly set up and use binding and finishing equipment to produce finished digitally printed products according to job specifications and within the production timeframe
- find and use information relevant to the task from a variety of information sources
- demonstrate all safety devices on the machine
- finish a digital product using two different types of binding and/or finishing
- set up equipment and produce two bound and/or finished digitally printed products (for each type of binding and/or finishing), according to manufacturer's and job specifications and enterprise procedures.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for converting and finishing of digitally printed products, such as trimmers, small guillotines, electronic staple machines and wiro binding units
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when converting and finishing a digitally printed product.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPPR384A Set up and produce basic digital print. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Materials</i> may include:	<ul style="list-style-type: none"> • paper • card • plastic • staples • wire spirals • comb spirals • glue.
<i>Equipment</i> may include:	<ul style="list-style-type: none"> • a range of finishing equipment found in a digital environment, such as: <ul style="list-style-type: none"> • trimmers • wiro • comb binders • folders.
<i>Finishing difficulties</i> may include:	<ul style="list-style-type: none"> • warping • page curl • creasing • cracking.
<i>Problems may include:</i>	<ul style="list-style-type: none"> • blunt or damaged blades • misaligned or jammed staples • adhesive application • sheet separation.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR287A Use digital processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to apply various digital printing processes and select an appropriate method for a particular job.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals using various digital printing processes working in the digital, commercial print, pre-press, bureau, high-end digital print or a combination of these business environments.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify digital processes	<p>1.1. Various <i>digital processes</i> used within the workplace are identified and documented</p> <p>1.2. Advantages or disadvantages of one process over another for a particular job are identified and a suitable option recommended</p>
2. Assess job requirements	<p>2.1. The printing requirements of the job are determined</p> <p>2.2. The layout design of the job is reviewed to determine possible <i>printing problems</i> that may occur when using a particular process</p> <p>2.3. The end <i>application</i> of the digital product is reviewed to ensure the digital process will meet job specifications and enterprise standards</p>
3. Apply digital process	<p>3.1. A digital process is selected that ensures job specifications are met</p> <p>3.2. The digital process is completed in accordance job specifications and enterprise standards</p> <p>3.3. The job is reviewed to ensure that the appropriate digital process was selected based on job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for expressing ideas and information, having considered all the fundamentals of each digital process
- collecting, analysing and organising skills in relation to the fundamentals of digital processes
- planning and organising skills for identifying and clarifying job requirements and selecting a digital process
- teamwork when maintaining the production process in association with others
- problem-solving skills by diagnosing and correcting printing problems
- use of technology by using raster image processors (RIPs) or front-end processors to output a job

Required knowledge

- various digital printing processes used within the digital sector
- advantages and disadvantages of each process
- types of substrates that best suit a particular process
- cost differences between each process
- advantages and disadvantages digital processes have compared to traditional printing methods
- different applications digital products may be used for
- effect heat can have on certain processes
- effect light can have of certain processes
- how folding may affect the appearance of a digitally printed job
- what layout design considerations need to be considered when using a particular process
- which colours and combinations are not effective for certain processes
- OHS issues in relation to each digital process
- location of documentation or other information regarding digital processes

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- identify the various digital printing processes
- select the most appropriate digital printing process for a particular job
- find and use information relevant to the task from a variety of information sources.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for colour management production
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when applying digital processes to produce a product to specifications.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended, such as:

- ICPPR384A Set up and produce basic digital print.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Digital processes</i> may include:	<ul style="list-style-type: none"> • commonly used digital processes, such as: <ul style="list-style-type: none"> • tone • inkjet • liquid toner-based.
<i>Printing problems</i> may include:	<ul style="list-style-type: none"> • ghosting • poor conversion of Pantone colours • banding or blending problems • quality of solid blacks • text too small • trapping and knockout problems.
<i>Application</i> may include:	<ul style="list-style-type: none"> • folded products • outdoor banners • letterheads requiring overprinting and/or laminating.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR288A Produce basic relief printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce basic relief printed product. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a platen, cylinder or rotary printing machine ensuring an efficient routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The <i>machine</i> is correctly shut down and cleaned according to occupational health and safety (OHS) guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel system	<p>1.1. Reel stand and rewind sections are monitored to ensure efficient continuous operation, correct tension and to ensure no marks or blemishes to finished product</p> <p>1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation</p> <p>1.3. <i>Substrate</i> is added to and removed from process according to job instructions</p> <p>1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery</p> <p>1.5. Set-off/marketing prevention system is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof</p>
2. Maintain operation of sheet system	<p>2.1. Feeder and delivery sections are monitored and adjusted to ensure continuous and efficient feeding to machine</p> <p>2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation</p> <p>2.3. Transfer system is monitored and adjusted to ensure correct and continuous sheet handling and efficient operation</p> <p>2.4. Substrate is added to and removed from the process according to job instructions</p> <p>2.5. Set-off/marketing prevention system is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof</p>
3. Maintain basic routine relief printing process	<p>3.1. Relief forme or plate cylinder condition is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof</p> <p>3.2. Relief impression surface condition is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof</p> <p>3.3. Relief inking system is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof</p>
4. Maintain routine production process	<p>4.1. Production process is implemented in association with fellow workers and according to company specifications and planned daily schedule</p> <p>4.2. Production is maintained within OHS requirements</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>and company and manufacturer's specifications</p> <p>4.3. Manual and/or automatic control is used according to specification</p> <p>4.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.5. Ink performance, colour, register and position already included in line embellishments of print are monitored and adjusted throughout production run</p> <p>4.6. Production difficulties are anticipated and action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Problem in relief machine operation is identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures</p> <p>5.3. Relief machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.2. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.3. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. Embellishment equipment is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.5. All product is removed from operating area</p> <p>6.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.7. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean and wash up printing machine at end of print run	<p>7.1. Cylinders, plate and roller surfaces are cleaned ready for next run</p> <p>7.2. Inking system is washed up ready for next run, and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>liquid waste is disposed of according to company and regulatory requirements</p> <p>7.3. <i>In-line</i> printing/convertng/binding/finishing units are cleaned ready for next run</p> <p>7.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.5. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.6. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for providing feedback to internal and external clients about printing processes and job specifications
- collecting, analysing and organising skills for collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising skills for coordinating sequences for printing and washup
- teamwork skills for communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- numeracy skills for calculating consumables requirements
- problem-solving skills for identifying print problems and correcting during print run
- technical skills for using machines and monitoring systems

Required knowledge

- reel or sheet transportation and delivery systems
- OHS concerns when loading and handling heavy reel sheets fanned before loading into the press
- web tracking and importance to position and register
- consequences of not splicing web correctly
- components that need to be adjusted to ensure correct delivery
- effect of excessive suction on the slow-down wheels
- frequency that quality of product should be assessed
- causes of a halo effect on the relief print
- signs of wear in the image area of the plate marking product deemed unacceptable by operator
- monitoring systems
- maintaining ink levels
- in-line processes
- OHS concerns for the in-line components of the press
- frequency of examination of in-line components
- quality control and problem solving techniques
- precautions to be taken to ensure that the rewound product is of consistent acceptable quality
- printed material that is not an acceptable standard
- quality assurance processes
- actions if mild set-off was found on the back of the print

REQUIRED SKILLS AND KNOWLEDGE

- who to consult if there are problems with the print that cannot be fixed by the operator
- location of information concerning the correct operation of the machine
- shutdown and wash procedures
- dangers from solvents and solutions used to clean the inking system, plates, cylinders and the press
- procedures for correctly storing plates following printing
- parts of the machine that should be thoroughly cleaned following the print run
- components that should be inspected for wear following the print run
- important records to be kept for repeat prints
- machine manuals, safety and other documentation relevant to this task, where are they kept and the information included in these documents

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- operate a platen, cylinder or rotary printing machine ensuring an efficient routine production flow that maintains product quality standards
- rectify production problems with minimum downtime
- shut down machine correctly and clean according to OHS guidelines
- use computerised control, monitoring and data entry systems if available and appropriate
- find and use information relevant to the task from a variety of information sources
- manipulate embellishment tools and operations
- produce two basic relief printing jobs (if possible including at least one in-line process) according to manufacturer's and job specifications and enterprise procedures.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities and equipment, including platen, cylinder or rotary printing machines
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when setting up and producing a basic relief printed product.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity with other units, for example:

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU208C Operate and monitor machines (basic)
- ICPPR393A Set up for basic relief printing.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of: <ul style="list-style-type: none"> • paper • pressure sensitive material • board • plastics • related films or metal.
<i>Ink</i> may include:	<ul style="list-style-type: none"> • inks commonly used in 1-2 colour printing.
<i>Machine</i> may include:	<ul style="list-style-type: none"> • a range of platen, cylinder and rotary printing machines with: <ul style="list-style-type: none"> • manual • semi-automated • fully automated • computerised process control.
<i>In-line</i> may include:	<ul style="list-style-type: none"> • basic in-line operations, such as: <ul style="list-style-type: none"> • perforating • numbering • date coding • slitting top cutting • one up die cutting • foiling • embossing.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR313C Set up for basic flexographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up machines for routine flexographic printing.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to set up flexographic printing machines. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.</p> <p>Mounting and proofing plates is covered in ICPPR211C Mount and proof flexographic plates for basic printing.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked 1.4. Proofed job is checked for conformance with job specifications
2. Set up routine reel system (OR Element 3)	2.1. Reels are checked for treatment levels, coatings, printing side and age of product 2.2. Unwind reels are secured on reel shaft according to job specifications 2.3. Reels are correctly positioned on unwind stand according to job specifications 2.4. Correctly cut cores are positioned and mounted securely on rewind shafts 2.5. Press is webbed for single-sided surface print according to job specifications 2.6. Edge guide is centred and set according to job specifications 2.7. Unwind tension is set to suit <i>substrate</i> according to job specifications 2.8. Rewind tension is set to suit substrate according to job specifications 2.9. Nip rollers are set according to job specifications 2.10. PIV (Positively Infinitely Variable) drive is set for appropriate tensioning of substrate
3. Set up routine sheet system (OR Element 2)	3.1. Feeder is set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer systems are set up and adjusted according to job specifications 3.4. Delivery is set up and adjusted according to job specifications 3.5. <i>Substrate</i> is removed from stacker according to job specifications 3.6. Sheet transfer and control system is set up and adjusted according to job specifications 3.7. Set off/marketing prevention devices are set up and

ELEMENT	PERFORMANCE CRITERIA
	adjusted according to job specifications
4. Select and prepare inks and solvents	<p>4.1. Inks and solvents are selected according to <i>routine</i> job specifications and end-user requirements</p> <p>4.2. Quality and suitability of inks and solvents are checked and appropriate action is taken</p> <p>4.3. Inks and solvents are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>4.4. Correct colour and weight/volume of ink are mixed and viscosities checked and modified according to press requirements and routine job specifications</p> <p>4.5. Ink formula and approved colour draw downs appropriately recorded</p> <p>4.6. Inks and solvents are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions and the relevant hazardous liquids storage regulations</p>
5. Set up machine for basic flexographic printing	<p>5.1. Flexographic plate cylinders are installed and register adjustments centred OR</p> <p>5.2. Sleeves are installed in press and register adjustments made OR</p> <p>5.3. Plate mounting sheets are mounted on cylinders in press and register adjustments made</p> <p>5.4. Plate cylinders are gauged up or pre-set to impression</p> <p>5.5. Inking system is set up and roller nips/blades are set correctly</p> <p>5.6. Ink circulation is maintained at correct level and flow for <i>machine</i> requirements</p> <p>5.7. Viscosities are adjusted according to job specifications</p> <p>5.8. Air volume and drier temperatures or curing systems are selected to suit inks, substrate, solvents and according to job specifications</p> <p>5.9. Air volume is adjusted between colours to maximise drying and minimise air overspill</p>
6. Set up in-line units for basic process(es)	<p>6.1. Minor <i>in-line</i> printing/converting/binding units are set up for basic process(es) and adjusted to suit machine requirements and job specifications</p> <p>6.2. Assistance is given in the set up of major in-line printing/converting/binding units. (Note: if entire set</p>

ELEMENT	PERFORMANCE CRITERIA
	up is done refer to appropriate Set up competency standards.)
7. Conduct proof run	7.1. Material to be used for proof is organised correctly 7.2. Press is set up and operated according to OHS guidelines 7.3. Print impressions are set to minimum kiss impression 7.4. Web tensions are correctly set at unwind, between stations and rewind 7.5. The print is checked for register 7.6. Drying is checked as sufficient to key ink to the substrate 7.7. The viscosities are adjusted to obtain the correct colour at proof speed and checked against <i>colour matching system</i> 7.8. The substrate is checked against job specifications
8. Organise proof inspection and/or testing	8.1. Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures. 8.2. Production does not commence without client approval or authority where appropriate
9. Readjust settings to production speed	9.1. Production speed print results are interpreted and appropriate adjustments are made to press, ink and substrate settings 9.2. Adjustments are made according to product specifications and press performance 9.3. Web is spliced at production speed and further samples are obtained for quality inspections at appropriate intervals 9.4. Press setting is documented and samples are retained

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising activities by providing input into production scheduling about time requirements for set up to ensure efficient operation
- teamwork when working with other workers to coordinate set up to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- action if vital information was missing from the job ticket
- checks that are undertaken prior to set up (availability of materials etc.)
- flexographic printing plates and cylinders or sleeves or plate mounting sheets
- precautions that should be taken to avoid damaging plates and cylinders
- OHS factors that need to be considered when operating the reel in-feed and delivery system
- choosing the printing side of the material
- effect of low web tension on the print
- types of web splices that could be used appropriately for the job
- sheet in-feed
- OHS factors that need to be considered when operating the sheet in-feed and delivery system
- sheet is normally set up in the middle of the machine
- effect that side lay selection has on the job
- appropriate front lays to be selected
- determining the position of the sheet before it is transported to the printing unit
- registering check be carried out
- two-sheet cut is used on most feeders
- sheet is missing or late
- reel delivery system

REQUIRED SKILLS AND KNOWLEDGE

- effect of excessive web tension at the rewind of the machine
- minimising risks associated with the rewind of the machine
- sheet delivery system
- application of spray powder is sometimes advisable
- effects of too much spray powder
- slowdown devices may be used in the delivery
- effect excessive jogging would have on the stack
- selection and preparation of inks and additives
- major environmental and OHS concerns with regard to inks and additives
- suitability of ink matched to the particular job
- implications if the ink were too viscose
- modifying ink that was slightly light
- methods that are available to check the ink for correct colour
- who passes the colour prior to running the job
- machine set up
- OHS factors that need to be considered when setting up the machine
- how machine specifications are determined, relating to the specific job
- steps that should be taken to ensure that the inking system is adjusted correctly
- why inking system ink level is maintained at a certain level
- precautions that are necessary when handling doctor/chamber blades
- optimum make ready speed for the job
- basic in-line processes
- steps that are taken to incorporate the in-line processes into the make ready
- equipment used in in-line processing is protected against damage during set up
- precautions that should be taken if UV drying is utilised to dry the ink film
- proofing and adjustment
- methods that can be used to minimise waste during make ready
- procedures that are followed to have the print approved
- quality control measurements that should be applied to the proof to test against known standards
- checking the initial print prior to running
- determining settings to be adjusted
- processes to be used to plot the success of the machine adjustment
- final results recorded for future reference
- relevant test procedures
- identifying and describing the tests for scuffing and coefficient of friction
- circumstances in which these tests should be applied
- leaching
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up flexographic printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up a press on TWO occasions for basic flexographic printing (if possible including at least ONE in-line process), according to manufacturer's specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores

EVIDENCE GUIDE

	<p>on and off machine</p> <ul style="list-style-type: none">• ICPSU202C Prepare, load and unload product on and off machine• ICPSU207C Prepare machine for operation (basic)• ICPSU211C Prepare ink and additives• ICPPR211C Mount and proof flexographic plates for basic printing• ICPPR214C Produce basic flexographic printed product.
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel and small or large sheet handling systems.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in colour printing.
<i>Routine</i> may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production are straightforward and do not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> • colours, simple graphics and text. Minor variation in registration and position.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR314C Produce complex flexographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce non-routine flexographic printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a reel-fed flexographic press ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain non-routine operation of reel transportation system	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. <i>Substrate</i> is added to process according to job instructions
2. Maintain non-routine operation of reel delivery system on web-fed machine	2.1. Reel rewind section is monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product 2.2. Substrate is removed from process according to <i>non-routine</i> job instructions 2.3. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery 2.4. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
3. Maintain complex flexographic printing process	3.1. Flexographic plate and plate cylinder or sleeve condition is monitored and adjusted to ensure the quality of printed product meets the standard of the approved proof 3.2. Flexographic impression roller condition is monitored to ensure the quality of printed product meets the standard of approved proof 3.3. Flexographic inking system and doctor blade condition are monitored and adjusted to ensure quality of printed product meets the standard of approved proof 3.4. Drying systems are monitored and adjusted to ensure quality of printed product meets the standard of approved proof 3.5. <i>In-line</i> printing/converting/binding/finishing processes are monitored and adjusted to ensure quality of product meets the standard of the approved proof
4. Maintain non-routine production process	4.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 4.2. Production is maintained within OHS requirements and company and manufacturer's specifications

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Manual and/or automatic control is used as per specification</p> <p>4.4. Manual and/or automatic control is used as per specification</p> <p>4.5. Ink performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify faults	<p>5.1. Problem in flexographic machine is identified and reported according to enterprise procedures</p> <p>5.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>5.3. Flexographic machine operation is checked to ensure correct operation</p> <p>5.4. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Reels and cores are removed from press</p> <p>6.4. Unused ink is drained back to containers and correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.6. All product is removed from operating area</p>
7. Clean and wash up printing machine at	7.1. Cylinders or sleeves, plate and roller surfaces are

ELEMENT	PERFORMANCE CRITERIA
end of print run	<p>cleaned ready for next run</p> <p>7.2. Inking rollers and doctor blades or chamber blade systems are cleaned with correct solvents according to OHS guidelines</p> <p>7.3. Ink pumps, tanks and hoses are cleaned correctly</p> <p>7.4. Impression rollers/central impression and press rollers are cleaned</p> <p>7.5. In-line printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.6. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.7. Press is lubricated and protected according to duration of shutdown</p> <p>7.8. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and making adjustments

Required knowledge

- reel transportation and web control
- causes of the reel to wander
- cause the web to break at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- print fault that would result from the reel being run out of centre
- possible faults in the unwind section that could cause a web break
- reel delivery for rewinding and sheeting

OHS risks associated with rewinding and sheeting

- hat safety feature in the delivery system if the web jams up
- why the sheet cut-off would wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- printing and drying units
- result if the plate lifts on the leading edge during a print run
- build-up of ink on the impression cylinder affecting the printed product
- causes of the ink foaming in the ink tray
- effect of too much reducer in the ink
- actions that reduce wear of the doctor blade
- necessary that all solvents be removed from the final ink film
- the link between driers and set off and marking

REQUIRED SKILLS AND KNOWLEDGE

- causes of UV ink to dry
- causes substrate to distort
- effect in the chillers if the drying temperature was too low
- effect of incorrect drying temperature on the finished product
- advisable not to eat or drink near the machine when using UV inks
- necessary to frequently examine the in-line components of the job
- how the consistency of the punching unit IS checked
- result of excessive pressure on the slitters
- maintaining production process
- safety features within the organisation aid in maintaining effective production
- who would be held legally responsible for the removal of machine guards and/or disconnection of micro switches
- effect of inadequate communication within the work team on a flexographic printing machine
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- other measurements besides optimum solid ink density can be measured to assess print quality accurate method of checking register during a production run
- necessary to take immediate action when production problems are anticipated
- actions to be taken to eliminate further processing of unacceptable printed product
- the result to the substrate if the relative humidity is increased in the press room
- procedure to care for a newly delivered substrate to the press room
- why should waste be sorted
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- flexographic machine operating problems
- when it would be necessary to call service personnel to correct a machine problem
- enterprise procedures that are in place to report any machine operating problems
- shutdown procedures
- result if correct shutdown procedures were not followed
- necessary that correct shutdown procedures are conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- printed product needs to be clearly labelled prior to removal from the press room
- further operations that are required for printed reels upon removal from the printing machine
- how the printed job should be stored after removal from the printing machine
- cleaning and washing up the printing unit
- OHS concerns should be observed when handling ink

REQUIRED SKILLS AND KNOWLEDGE

- safety precautions should be observed when cleaning the printing cylinders
- necessary to thoroughly clean and wash up the printing unit prior to the next print run
- why the anilox cells should be thoroughly cleaned
- how can plates be stored to minimise damage
- cleaning feed, transportation, delivery and in-line sections
- OHS precautions that should be observed when cleaning these sections of the machine
- necessary to maintain a clean substrate handling section of the machine
- completing production records
- completed records used in the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a reel-fed flexographic press ensuring an efficient 3 or more colour production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a flexographic machine whilst producing a complex print on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR411C Mount and demount flexographic plates for complex printing
- ICPPR413C Set up for complex flexographic printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel delivery systems.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 4 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> 4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board,

RANGE STATEMENT	
	corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR321C Set up for basic gravure printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for routine gravure printing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up gravure printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reels	2.1. Unwind and rewind reels is are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to job specifications 2.3. Web-control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Printed web viewing devices are set up and adjusted according to job specifications 2.6. The folder and sheeter are set up and adjusted according to job specifications 2.7. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Select and prepare inks and additives (basic)	3.1. Inks , dyes or additives are selected according to job specifications and end-user requirements 3.2. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken 3.3. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 3.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications 3.5. Formulation of the ink, colour match and the approved colour are appropriately recorded 3.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
4. Set up machine for basic gravure printing	4.1. Gravure cylinders are selected, installed, set up and adjusted according to job specifications 4.2. Impression roller is set up and adjusted according to job specifications

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Inking system/doctor blade is set up and adjusted according to the gravure process and job specifications</p> <p>4.4. Drying system is set up and adjusted according to job specifications</p>
5. Conduct proof run	<p>5.1. Material to be used for proof is organised correctly</p> <p>5.2. <i>Machine</i> is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>5.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures</p> <p>5.4. Production does not commence without client OK or authority where appropriate</p> <p>5.5. If necessary, results are interpreted and adjustments made according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising activities by providing input into production scheduling about time requirements for set up to ensure efficient operation
- teamwork when working with other workers to coordinate set up to ensure efficient operation
- mathematical ideas and techniques by calculating cylinder position and substrate requirements for the job
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- vital information required on job ticket
- checks prior to set up (availability of materials etc.)
- correct cylinders chosen for the job
- important considerations when handling gravure cylinders
- parts of the unit that need to be checked to ensure the cylinder is correctly installed
- OHS factors that need to be considered when operating the reel in-feed and delivery systems
- how the printing side of the material is chosen
- what would be the effect of low web tension on the print
- what other types of web splices could be used appropriately for the job
- risks associated with the rewind of the machine
- what would be the effect of excessive web tension at the rewind of the machine
- what are the environmental and OHS concerns with regard to inks and additives
- how is the suitability of ink matched to the particular job
- what would happen if the ink were too viscose
- how would an ink that was slightly light be modified to meet the needs of the job
- what methods are available to check the ink for correct colour
- who passes the colour prior to running the job
- what precautions are necessary when handling doctor blades

REQUIRED SKILLS AND KNOWLEDGE

- how are the machine specifications determined, relating to the specific job
- what steps should be taken to ensure that the inking system was adjusted correctly
- why is the inking system ink level maintained at a certain level
- what is the optimum make ready speed for the job
- what steps are taken to incorporate the in-line processes into the make ready
- how is the equipment used in in-line processing protected against damage during set up
- what methods can be used to minimise waste during make ready
- what procedures are undertaken to have the print approved
- what quality control measurements should be applied to the proof to test against known standards
- what do you check on the initial print prior to running
- how are the settings to be adjusted determined
- what process is used to plot the success of the machine adjustment
- how are the final results recorded for future reference
- what machine manuals, safety and other documentation are relevant to this task and where are they kept and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> correctly set up gravure printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources demonstrate all safety devices on the machine set up a press on TWO occasions for basic gravure printing (if possible including at least ONE in-line process) according to manufacturer's specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment gravure printing machine with in-line units.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU201C Prepare, load and unload reels and cores

EVIDENCE GUIDE	
	<p>on and off machine</p> <ul style="list-style-type: none">• ICPSU207C Prepare machine for operation (basic)• ICPSU211C Prepare ink and additives• ICPPR322C Produce basic gravure printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in 1-2 colour printing
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions..
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of in-line gravure printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> 1-2 colours, simple graphics and text. Minor variations in registration and position.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, board, or plastics or metal wide or narrow reel handling systems.
<i>Wide or narrow reel handling systems</i> may include:	<ul style="list-style-type: none"> working to defined procedures under limited supervision.
<i>Routine</i> may include:	<ul style="list-style-type: none"> routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR322C Produce complex gravure printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce non-routine gravure printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a gravure press ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain non-routine operation of reel transportation system	1.1. Reel stand is monitored and adjusted to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. <i>Substrate</i> is added to process according to job instructions
2. Maintain non-routine operation of reel delivery system	2.1. Reel rewind section is monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product 2.2. Substrate is removed from process according to job instructions 2.3. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery 2.4. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
3. Maintain complex gravure printing process	3.1. Gravure cylinder condition is monitored and adjusted to ensure the quality of printed product meets the standard of the sample sheet 3.2. Gravure impression roller condition is monitored and maintained to ensure the quality of printed product meets the standard of sample sheet 3.3. Gravure inking system and doctor blade are monitored and adjusted to ensure quality of printed product meets the standard of sample sheet 3.4. Drying systems are monitored and adjusted to ensure quality of printed product meets the standard of approved proof
4. Maintain operation of in-line processes	4.1. <i>In-line</i> printing/converting/binding/finishing processes are monitored 4.2. In-line printing/converting/binding/finishing process are adjusted to ensure quality of product meets the standard of the approved proof
5. Maintain non-routine production process	5.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 5.2. Production is maintained within OHS requirements and company and manufacturer's specifications

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Manual and/or automatic control is used as per specification</p> <p>5.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>5.5. Ink performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>5.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>5.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>5.8. Waste is sorted according to enterprise procedures</p>
6. Identify and rectify faults	<p>6.1. Problem in gravure machine is identified and reported according to enterprise procedures</p> <p>6.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>6.3. Gravure machine operation is checked to ensure correct operation</p> <p>6.4. Faulty performance of equipment is identified and reported according to enterprise procedures</p>
7. Conduct shutdown of production process	<p>7.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>7.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>7.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>7.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>7.5. All product is removed from operating area</p> <p>7.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>7.7. Repair/adjustment is verified prior to resumption of operations</p>
8. Clean and wash up	8.1. Cylinders, plate and roller surfaces are cleaned ready

ELEMENT	PERFORMANCE CRITERIA
printing machine at end of print run	for next run 8.2. Inking system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements 8.3. In-line printing/converting/binding/finishing units are cleaned ready for next run 8.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 8.5. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run 8.6. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and making adjustments

Required knowledge

- what could cause the reel to wander
- what could cause the web to break at the unwind unit
- what is the difference between a "flying paster" and "zero speed" type reel-stand
- what print fault would result from the reel being run out of centre
- what possible faults in the unwind section could cause a web break
- what are the OHS risks associated with rewinding and sheeting
- what safety feature is in the delivery system if the web jams up
- why would the sheet cut-off wander
- what is the effect of poorly adjusted nip rollers when rewinding and sheeting
- how could a build-up of ink on the impression cylinder affect the printed product
- what could cause the ink to foam in the ink tray
- what is the effect of too much reducer in the ink
- what action reduces wear of the doctor blade
- why is it necessary that all solvents be removed from the final ink film
- what is the link between driers and set off and marking
- what could cause the substrate to distort
- what would be the effect in the chillers if the drying temperature was too low
- what is the effect of incorrect drying temperature on the finished product
- why is it necessary to frequently examine the in-line components of the job

REQUIRED SKILLS AND KNOWLEDGE

- how is the consistency of the punching unit checked
- what would be the result of excessive pressure on the slitters
- what is the benefit of identification numbers on jobs with multiple similar images
- how is the ratio of print to in-line speed controlled
- what is the effect of inadequate communication within the work team on a gravure printing machine
- what safety features within the organisation aid in maintaining effective production
- what are the ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- who would be held legally responsible for the removal of machine guards and/or disconnection of micro switches
- what is the most accurate method of checking register during a production run
- why is it necessary to take immediate action when production problems are anticipated
- what action is taken to eliminate further processing of unacceptable printed product
- what will be the result to the substrate if the relative humidity is increased in the press room
- what is the procedure to care for a newly delivered substrate to the press room
- why should waste be sorted
- what is the advantage of keeping reusable waste
- what industry standards can be applied to enhance effective communication with the client
- what are the necessary procedures that the client should follow to "OK" a printed product
- when would it be necessary to call service personnel to correct a machine problem
- what enterprise procedures are in place to report any machine operating problems
- what would be the result if correct shutdown procedures were not followed
- why is it necessary that correct shutdown procedures are conducted with fellow workers
- what advantages result from proper labelling and storage of excess inks and materials
- why should the printed product be clearly labelled prior to removal from the press room
- what further operations are required for printed reels upon removal from the printing machine
- how should the printed job be stored after removal from the printing machine
- what OHS concerns should be observed when handling ink
- what safety precautions should be observed when cleaning the printing cylinders
- why is it necessary to thoroughly clean and wash up the printing unit prior to the next print run
- why should the doctor blades be thoroughly cleaned
- why should doctor blades be handled with extreme care

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• how can printing cylinders be stored so as to minimise damage• what OHS precautions should be observed when cleaning these sections of the machine• why is it necessary to maintain a clean substrate handling section of the machine• how are completed records used in the final analysis of the job• what are the benefits of comprehensive records when considering the production of future jobs• what machine manuals, safety and other documentation are relevant to this task and where are they kept and information included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a gravure press ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a gravure machine whilst producing a complex print on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment gravure printing machine and in-line units.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR421C Set up for complex gravure printing

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel handling systems.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive materials, board, plastics and related films, or metal.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only

RANGE STATEMENT

	occasionally.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units	

ICPPR331C Set up for basic lithographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for basic lithographic printing sheet-fed and web-fed machines, including small offset.
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Application of the Unit

Application of the unit	This unit requires the individual to set up either wide or narrow reel or sheet-fed lithographic printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Standard set up is planned for carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels is are set up and standard settings adjusted according to job specifications 2.2. Webbing procedures are carried out according to standard operating procedures and OHS 2.3. Web-control system is set up and standard settings adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. The folder and sheeter are is set up and standard settings adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery sections are is set up and standard settings adjusted according to job specifications 3.2. Registration system is identified and adjusted according to job specifications 3.3. Sheet pick-up, and transportation, control and transfer systems is are set up and standard settings adjusted according to job specifications 3.4. <i>Substrate</i> is removed from process according to job instructions
4. Select and prepare inks and additives (basic)	4.1. <i>Inks</i> , dyes or additives are checked and appropriate action is taken and end-user requirements 4.2. Quality and suitability of inks, dyes or additives are selected according to job specifications and en-user requirements 4.3. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications 4.5. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded 4.6. Inks, dyes and additives are appropriately labelled,

ELEMENT	PERFORMANCE CRITERIA
	<p>handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
<p>5. Set up machine for basic offset lithographic printing</p>	<p>5.1. Plate cylinder are set up and adjusted and lithographic plates are selected and installed according to job specifications</p> <p>5.2. Blanket and blanket cylinder are set up and adjusted according to job specifications</p> <p>5.3. Impression cylinder is set up and adjusted according to job specifications</p> <p>5.4. Inking system is set up and adjusted according to the lithographic process and job specifications</p> <p>5.5. Dampening system is set up and adjusted according to job specifications</p>
<p>6. Conduct ok print run</p>	<p>6.1. Material to be used for proof ok sheet/section is organised correctly</p> <p>6.2. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof ok/section</p> <p>6.3. Ok/section is visually inspected and/or tested or laboratory testing organised according to enterprise procedures</p> <p>6.4. Production does not commence without client OK or authority where appropriate</p> <p>6.5. If necessary, results are interpreted and adjustment are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising activities by providing input into production scheduling about time requirements for set up to ensure efficient operation
- teamwork when working with others to coordinate set up to ensure efficient operation
- mathematical ideas and techniques by calculating plate position and substrate requirements for the job
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- vital information missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc)
- problems that can result from the cylinder not being cleaned prior to plate fitting
- how the grip edge of the plate is identified
- effect of over packing the printing plate cylinder
- pitch lines to be used to assist in plate installation
- tools or actions are likely to damage the plate
- plates be consistently tensioned
- OHS precautions that must be observed when webbing up the machine
- determining the printing side of the material
- effect of low web tension on the print
- purpose of nip rollers
- types of web splices appropriate for the job
- OHS factors that need to be considered when setting up the sheet in-feed and transfer systems
- sheet normally set up in the middle of the machine
- effect side lay selection has on the job
- determining the position of the sheet before it is transported to the printing unit
- how a register check would be carried out

REQUIRED SKILLS AND KNOWLEDGE

- two-sheet cut used on most feeders
- sheet is missing or late
- effect of excessive web tension at the rewind of the machine
- risks associated with the rewind of the machine
- application of spray powder is sometimes advisable
- affects of too much spray powder
- slowdown devices to be used in the delivery
- effect excessive jogging would have on the stack
- OHS and environmental concerns of inks and additives
- details that are necessary to check the suitability of an ink for a job
- modifying ink that is slightly light
- methods that are available to check the ink for correct colour
- who passes the colour prior to running the job
- OHS factors that need to be considered when setting up the machine
- how the cylinder (plate, blanket and impression) specifications are determined for the specific job
- effects an incorrectly set dampening system may have on the job
- ink profile varies across the machine
- optimum ink duct sweep
- machine position to engage in-line processing units
- precautions necessary when setting up in-line processing units
- precautions to be taken if UV drying was utilised to dry the ink film
- methods that can be used to minimise waste during make ready
- check on the initial print prior to running
- how the machine is proof tested
- ideal conditions for inspecting the proof
- methods that are available to check and adjust ink colour and consistency
- adjustments that may have caused mis-register
- adjustments that are made to position the image laterally
- adjustments that are made to position the image circumferentially
- who has the final say in the "OK" of the job
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up either wide or narrow reel or sheet-fed lithographic printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up for TWO basic lithographic printing jobs according to manufacturer's specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a lithographic printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU201C Prepare, load and unload reels and cores on and off machine

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPSU202C Prepare, load and unload product on and off machine• ICPSU207C Prepare machine for operation (basic)• ICPSU211C Prepare ink and additives• ICPPR232C Produce basic lithographic printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide or narrow reel or large or small sheet handling systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in printing.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment to match basic standard colours under controlled lighting conditions.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of single sheet, stream and reel-fed machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> • simple graphics and text. Minor variation in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Routine</i> may include:	<ul style="list-style-type: none"> • routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR332C Produce complex lithographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex lithographic printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a lithographic press ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain non-routine operation of reel system (OR Element 2)	1.1. Reel stand and rewind sections are monitored and adjusted to maintain correct tension and to ensure no marks, blemished or damage to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery 1.5. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
2. Maintain non-routine operation of sheet system (OR Element 1)	2.1. Feeder and delivery sections are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from the process according to job instructions 2.5. Set-off/marketing prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the standard of approved proof
3. Maintain complex lithographic printing process	3.1. Non-routine lithographic plate and plate cylinder condition are monitored and adjusted to ensure the quality of printed product meets the standard of the sample sheet 3.2. Non-routine lithographic blanket and blanket cylinder condition are monitored and adjusted to ensure the quality of printed product meets the standard of sample sheet 3.3. Non-routine lithographic impression cylinder condition is monitored and adjusted to ensure quality of printed product meets the standard of sample sheet

ELEMENT	PERFORMANCE CRITERIA
	<p>3.4. Non-routine lithographic inking system is checked and maintained to ensure quality of printed product meets the standard of sample sheet</p> <p>3.5. Non-routine lithographic dampening system condition is monitored and adjusted to ensure quality of printed product meets the standard of sample sheet</p> <p>3.6. Set off/marketing prevention and drying system is monitored and adjusted to ensure quality of printed product meets the standard of sample sheet</p> <p>3.7. Drying systems are monitored and adjusted to ensure quality of printed product meets the standard of approved proof</p>
4. Maintain production process	<p>4.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule</p> <p>4.2. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.3. Manual and/or automatic control is used as per specification</p> <p>4.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.5. <i>Ink</i> performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>4.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and investigate lithographic machine operating problem	<p>5.1. Problem in lithographic machine operation is investigated</p> <p>5.2. Problem in lithographic machine is identified and reported according to enterprise procedures</p>
6. Rectify minor lithographic machine faults	<p>6.1. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>6.2. Lithographic machine operation is checked to ensure</p>

ELEMENT	PERFORMANCE CRITERIA
	correct operation
7. Conduct shutdown of production process	<p>7.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>7.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>7.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>7.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>7.5. All product is removed from operating area</p> <p>7.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>7.7. Repair/adjustment is verified prior to resumption of operations</p>
8. Clean and wash up printing machine at end of print run	<p>8.1. Cylinders, plate and roller surfaces are cleaned ready for next run</p> <p>8.2. Inking system and dampening system are washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>8.3. <i>In-line</i> printing/converting/binding/finishing units are cleaned ready for next run</p> <p>8.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>8.5. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p>
9. Complete records	9.1. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- reel transportation and web control
- OHS concerns when operating the reel transportation system
- reel wander
- causes of web break at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- print fault that would result from the reel being run out of centre
- faults in the unwind section that could cause a web break
- sheet transportation and transfer
- OHS concerns that are there when operating the sheet transportation system
- result of worn suckers at the feeder suction head
- type of two sheet detection on this machine
- movement that the sheet should have when being registered by the side lay
- causes of mis-register of the sheet at the feeder
- visible signs of the sheet being registered in the feeder
- gripper malfunction affecting sheet control and transfer
- adjustment of sheet transfer mechanisms
- causes of the feeder stack becoming uneven
- result of the feeder stack not being loaded level
- how unevenness of the feeder stack can be rectified

REQUIRED SKILLS AND KNOWLEDGE

- reel delivery for rewinding and sheeting
- OHS risks associated with rewinding and sheeting
- what safety feature is in the delivery system if the web jams up
- why the sheet cut-off would wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- further operations that are required for printed reels upon removal from the printing machine
- how the printed job should be stored after removal from the printing machine
- why it is necessary to label each printed reel
- sheet delivery
- effect machine speed will have on sheet delivery
- advantage of spraying moving sheets with anti set off powder in the delivery
- items in the delivery that could cause marking of the printed image
- remedial steps that may be necessary to eliminate marking of the printed image
- function of a sheet decurler fitted to the delivery of some machines
- faults that could result from incorrectly set grippers in the transfer section of a machine
- how the printed job should be stored after removal from the printing machine
- printing unit
- result if the plate develops a crack at the grip edge during a print run
- effect of a sticky blanket surface
- print faults that would result from the blanket not being tensioned correctly
- causes of blanket packing creep during printing
- how a build-up of ink on the impression cylinder could affect the printed product
- cause of the ink to lying back in the duct
- causes of ink stripping on the inking rollers
- print faults that would result from excessive use of fountain solution on the plate
- recommended pH range for fountain solutions
- causes of the conductivity of the fountain solution to change over an eight-hour shift
- problems that can be caused by excessive conductivity of the fountain solutions
- drying unit
- link between driers and set off and marking
- what causes UV ink to dry
- what could cause the substrate to blister
- effect in the chillers if the drying temperature was too low
- effect of incorrect drying temperature on the finished product
- in-line processes
- consistency of the punching unit
- result of excessive pressure on the slitters
- result of a dirty former

REQUIRED SKILLS AND KNOWLEDGE

- result of defective pins in the folder
- result of adjusting the rollers at the base of the former
- causes of the web jamming up in the folder
- maintaining production process
- effect of inadequate communication within the work team on a lithographic printing machine
- safety features within the organisation aid in maintaining effective production
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- who would be held legally responsible for the removal of machine guards and/or disconnection of micro switches
- disadvantages of using a closed looped system for automatic control of the printed product
- other measurements besides optimum solid ink density can be measured to assess print quality
- most accurate method of checking register during a production run
- action when production problems are anticipated
- action to eliminate further processing of unacceptable printed product
- effect of relative humidity if increased in the press room
- procedure to care for a newly delivered skid of paper to the press room
- why waste should be sorted
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- lithographic machine operating problems
- when it is necessary to call service personnel to correct a machine problem
- enterprise procedures that are in place to report any machine operating problems
- correct shutdown procedures
- advantages that result from proper labelling and storage of excess inks and materials
- why the printed product be clearly labelled prior to removal from the press room
- cleaning and washing up the printing unit
- OHS concerns that should be observed when handling ink
- safety precautions that should be observed when cleaning the printing cylinders
- washing procedure for offset rubber blanket
- how plates can be stored so as to minimise damage
- cleaning feed, transportation, delivery and in-line sections
- OHS precautions to be observed when cleaning these sections of the machine
- completing production records
- completed records are used in the final analysis of the job

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• benefits of comprehensive records when considering the production of future jobs• machine manuals, safety and other documentation that are relevant to this task, where kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Operate a lithographic press ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Monitor production output and make necessary adjustments to maintain print quality on a lithographic machine whilst producing a complex print on TWO occasions (if possible using different types and sizes of substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria • Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • lithographic printing machine
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR431C Set up for complex lithographic printing

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of single sheet, stream-fed or reel-fed printing machines with manual, semi-automated, fully automated or computerised process control. Includes machines with digitally imaged plates.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> wide range of inks commonly used in printing.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR341C Set up for basic pad printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for basic pad printing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up pad printing machines for routine print jobs. The individual will set up manual pre- and post-treatment processes, conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Install tampons (printing pads) into machine	2.1. Appropriate tampons are selected according to job specifications 2.2. Tampons are secured into <i>machine</i>
3. Set up fixtures onto machine bed	3.1. Appropriate fixtures are selected and secured to xy table 3.2. Height of machine bed is adjusted to suit size of object to be printed 3.3. Xy table of machine bed is adjusted to suit position of image on object
4. Select and prepare inks and additives	4.1. <i>Inks</i> and additives are selected according to job specifications and end-user requirements 4.2. Quality and suitability of inks and additives are checked and appropriate action is taken 4.3. Inks and additives are prepared according to OHS requirements and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and <i>routine</i> job specifications 4.5. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded 4.6. Inks and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
5. Set up machine for basic pad printing	5.1. Plate holder is set up and adjusted according to job specifications 5.2. Appropriate plate and plate holder are selected and plate is secured into plate holder 5.3. Tampons are set up and adjusted according to job specifications 5.4. Spatula and doctor blade are set up and adjusted according to the requirements of the pad printing

ELEMENT	PERFORMANCE CRITERIA
	process and routine job specifications OR 5.5. Ink cup is set up and adjusted according to job specifications
6. Set up manual pre- and post-treatment processes	6.1. Manual loading is set up according to routine object requirements and job specifications 6.2. Manual <i>pre-treatment</i> is set up to suit routine object and according to job specifications 6.3. Drying racks are set up to suit object and according to job specifications
7. Conduct proof run	7.1. Material to be used for proof is organised correctly 7.2. Machine is operated according to manufacturer's requirements and enterprise procedures to produce a specified proof 7.3. Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 7.4. Production does not commence without client approval or authority where appropriate 7.5. Results are interpreted and adjustments are carried out according to product and machine specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising information by collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when working with others to coordinate set up to ensure efficient operation
- mathematical ideas and techniques by calculating cliché and tampon position and substrate requirements for the job
- problem-solving skills by recognising proofing faults and determining adjustments to correct them
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- substrate identification
- class of substrate
- ink selection
- ink suitability
- correct viscosity
- pot life of a two-component ink
- pad selection
- correct pad shape for applications
- effect pad shape and hardness have on print quality
- ideal storage conditions for pads
- plate selection
- determining correct plate type for applications
- doctor blades
- OHS concerns when setting presses and doctor blades
- adjusting the machine so that doctor blade is operating correctly
- the effect of a damaged doctor blade
- pre- and post-treatment requirements
- OHS concerns when pre- and post-treating substrates
- pre-treating an oily surface to ensure it is ready for printing

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• print problem identification and correction• causes and solutions for common print problems (eg hairlines around image, loss of density in the centre of a solid image, fine lines of ink running through image, distortion of image)• machine manuals, safety and other documentation are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up pad printing machines for routine print jobs. The individual will set up manual pre- and post-treatment processes and conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate all safety devices on the machine • set up a machine for basic pad printing on TWO occasions (if possible on different substrates) to meet manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

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| | <ul style="list-style-type: none">• ICPSU202C Prepare, load and unload product on and off machine• ICPSU207C Prepare machine for operation (basic)• ICPSU211C Prepare ink and additives• ICPPR242C Produce basic pad printed product. |
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated or computerised operation.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in single colour printing.
<i>Routine</i> may include:	<ul style="list-style-type: none"> routine within this context relates to the set up and production of print runs. The set up of equipment and production is straightforward and does not involve a significant amount of deviation from using standard equipment settings. In this sense, routine does not refer to a job that an individual might repeat on a regular basis.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours under controlled lighting conditions.
<i>Pre- and post-treatment processes</i> may include:	<ul style="list-style-type: none"> range of pre- and post-treatment process commonly used in pad printing.
<i>Design</i> may include:	<ul style="list-style-type: none"> single colour simple graphics and text. Minor variations in registration and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR342C Produce complex pad printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex pad printed product.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a pad printing machine ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain non-routine pad printing process	1.1. Location of objects into fixtures is monitored and adjusted if necessary 1.2. Printing plates condition is monitored to ensure the quality of printed product meets the standard of the approved proof 1.3. Printing pads condition is monitored and maintained to ensure the quality of printed product meets the standard of approved proof 1.4. Spatulas and doctor blades are monitored and adjusted to ensure quality of printed product meets the standard of approved proof OR 1.5. Ink cups are monitored and adjusted to ensure quality of printed product meets the standard of approved proof 1.6. Printing ink viscosity is monitored and adjusted to ensure quality of printed product meets the standard of approved proof
2. Maintain in-line systems	2.1. In-line loading is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 2.2. In-line pre-treatment is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 2.3. In-line drying is monitored and adjusted to ensure quality of printed product meets the standard of approved proof 2.4. In-line ejection is monitored and adjusted to ensure quality of printed product meets the standard of approved proof
3. Maintain non-routine production process	3.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 3.2. Production is maintained within OHS requirements and company and manufacturer's specifications 3.3. Manual and/or automatic control is used as per specification 3.4. Performance is monitored and verified using the process control system according to enterprise procedures 3.5. Ink performance, colour, register and position of print are monitored and adjusted throughout

ELEMENT	PERFORMANCE CRITERIA
	<p>production run</p> <p>3.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>3.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>3.8. Waste is sorted according to enterprise procedures</p>
4. Identify and rectify faults	<p>4.1. Problem in pad printing <i>machine</i> operation is identified and reported according to enterprise procedures</p> <p>4.2. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>4.3. Pad printing machine operation is checked to ensure correct operation</p> <p>4.4. Faulty performance of equipment is identified and reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>5.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5. All product is removed from operating area</p> <p>5.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.7. Repair/adjustment is verified prior to resumption of operations</p>
6. Clean and wash up printing machine at end of print run	<p>6.1. Plates and pads are cleaned ready for next run</p> <p>6.2. Inking system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>6.3. Pre- and post-treatment units are cleaned ready for next run</p>

ELEMENT	PERFORMANCE CRITERIA
	6.4. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- Use of technology by using monitoring equipment and computerised production records

Required knowledge

- major OHS concerns when operating this machine
- where the MSDSs are stored and what information do they contain
- different machine cycle modes
- how the colour density of a light image on a dark substrate can be improved by selection of a different machine cycle mode
- special cycle modes that are available on the machine and their application
- determining if the ink has been mixed to the correct viscosity
- correcting ink viscosity during production
- causes of unreleased ink remaining on the printing pad and how you identify them
- how the addition of a catalyst affects the pot life of ink and what other factors affect pot life
- recognising a damaged pad
- correct method of cleaning a pad during production
- in multicoloured printing effect of different pad shapes for different colours
- pre- and post-treatment requirements
- determining the time the ink should take to cure before scratch and adhesion tests can be performed
- method that can be used to check for correct pre-treatment of polypropylene during production

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• ensuring that drying conditions are correct for the product• print problem identification and correction• effects that will be visible in the image if the ink viscosity is incorrect• identifying the cause of incorrect registration and prevent its recurrence• cause a fine coating of ink over the whole cliché surface• machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a pad printing machine ensuring an efficient non-routine production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO complex pad printing jobs (if possible on different substrates) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

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| <ul style="list-style-type: none">• ICPPR441C Set up for complex pad printing. |
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in multicoloured printing.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated, fully automated or computerised operation.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours and/or Pantone shades under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> multicoloured, complex graphics and text. Critical tight registration, fit and position pre- and post-treatment processes range of pre- and post-treatment techniques used in pad printing.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR382C Produce and manage complex digital print

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce and manage digital print for a complex print production environment.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to identify the productivity of digital print systems and to communicate these effectively. The individual is required to troubleshoot and rectify production workflow problems for digital printing to maximise productivity. The individual will construct and access complex electronic data, perform digital colour management, manage digital production workflows, and maintain and adjust machine settings to ensure production speeds and print quality are achieved.</p> <p>This competency is best applied in the commercial print, pre-press, bureau, high-end digital print or a combination of any of these business environments.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Troubleshoot and correct production workflows for digital printing	<p>1.1. A productivity analysis on a digital production system is undertaken to determine most productive approach according to job specifications</p> <p>1.2. Workflow procedures for digital printing are developed according to equipment availability and production environment, for a range of job specifications</p> <p>1.3. Possible causes for problems in the workflow procedures are identified and rectified and strategies to improve productivity with minimum waste in resources and according to job specifications are developed</p> <p>1.4. Preventive maintenance on a digital printing system is undertaken according to manufacturer's specifications to ensure maximum productivity, minimum downtime and wastage</p>
2. Liaise with clients	<p>2.1. Print services, quality expectations and print costings for digital printing are communicate to clients according to enterprise procedures</p> <p>2.2. Productivity advantages and disadvantages of different digital print options are communicated according to manufacturer's specifications and enterprise procedures</p> <p>2.3. Turnaround time is calculated and communicated to client according to enterprise procedures</p>
3. Confirm job specifications	<p>3.1. Print job specifications are correctly interpreted from job documentation or production control system</p> <p>3.2. Availability of all job components is checked according to enterprise procedures</p> <p>3.3. Scanning, proofing and finishing requirements of job are checked and internal workflow and/or outsource arrangements are coordinated</p> <p>3.4. Run time of job is determined and completion time correctly estimated</p>
4. Access, verify and submit electronic data files to a digital printer	<p>4.1. A workstation computer and industry software are used to locate and retrieve electronic data files according to job specifications</p> <p>4.2. Preview or pre-flight check is performed on electronic data files to verify correct job set up according to job specifications</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Job priority is determined according to job specifications and production schedules</p> <p>4.4. Data file is submitted to print and image quality and <i>machine</i> productivity checks are performed and adjustments made to correct any problems</p>
<p>5. Perform complex digital colour management</p>	<p>5.1. Appropriate digital colour management solutions are used to minimise variation in colour selection, lighting conditions and surrounding colour, machine <i>calibration</i>, screen angle, machine resolution, conversion algorithms from RGB to CMYK, <i>substrate</i> type and condition</p> <p>5.2. Printed RGB, CMYK and PMS colour charts are used to perform <i>colour matching</i> with client proof</p> <p>5.3. Accurate recommendations on colours to use when producing electronic data files are made according to job specifications</p> <p>5.4. Colour matching of an electronic data file created using the RGB colour model is performed by using machine calibration procedures and by customising an output profile</p>
<p>6. Perform and/or coordinate document proofing</p>	<p>6.1. A digital proof run is conducted for client approval and to confirm proof meets job specifications</p> <p>6.2. Internal or external pre-press proofing systems operators are consulted to conduct the proof run and provide job specifications according to enterprise procedures</p> <p>6.3. Communication between the client and proofing provider occurs to ensure proof conforms to job specifications</p>
<p>7. Run digital print job and/or coordinate press print run</p>	<p>7.1. Production schedules, enterprise procedures and job specifications are observed and liaison with internal and/or external production operators is maintained to determine start and duration time for the print run</p> <p>7.2. A digital print run is conducted according to job specifications ensuring that machine productivity and quality are monitored and adjusted throughout the duration of the print job</p>
<p>8. Perform and/or coordinate document finishing and client delivery</p>	<p>8.1. The finishing method is determined according to job specifications</p> <p>8.2. Steps required for document finishing are identified and if necessary performed on <i>in-line</i> finishing units on a web- or a sheet-fed system according to</p>

ELEMENT	PERFORMANCE CRITERIA
	enterprise procedures 8.3. Packaging and presentation of finished print work is completed with co-workers and/or external source, if necessary, to ensure against damage and to conform to delivery requirements according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing information to client on how to construct digital files to achieve accurate print results
- collecting, analysing and organising information by determining printing conditions to identify colour management requirements
- planning and organising activities by designing production workflows to ensure efficient print processes
- teamwork when maintaining production workflows in association with co-workers
- mathematical ideas and techniques by using calibration techniques to determine dot densities
- problem-solving skills by identifying workflow problems and implementing strategies to improve productivity
- use of technology by using proficiently computer hardware and software to maximise productivity

Required knowledge

- problem-solving strategies that could you use if a key piece of equipment in the production workflow was temporarily unavailable
- actions required if the substrate type you required was unavailable
- workarounds that could be used if you received a data file error when accessing a PDF file
- what to do if you had a busy production schedule with tight deadlines and a power failure occurred for an indefinite period of time
- factors that influence making a decision about using a particular printing solution (run length, substrate type, application)
- cost difference between a specified job printed on a digital system and a specified traditional system (eg digital vs lithographic)
- quality difference between a specified job printed on a digital system and a specified traditional system (eg digital vs lithographic)
- difference in turnaround time of a specified job printed on a digital system and a specified traditional system (eg digital vs lithographic)
- print method that would be the most appropriate option for the specified print job
- main differences between digital printing and traditional printing methods
- recommendations that could be made to a client who has created an electronic file in an incompatible software application
- suggestions that could be made to a client who required a high volume print run but needed a portion of the print job immediately

REQUIRED SKILLS AND KNOWLEDGE

- steps that need to be followed for a client approval of a proof
- actions required if vital information was missing from the job ticket (manual or electronic)
- checks needing to be undertaken prior to set up (availability of material, maintenance)
- file does not transfer correctly what action should be taken to correct the problem
- main points to be checked before submitting file to print
- checks are made to ensure the data is in a format that can be used in digital print
- suggestions that could be made to a client who has an incompatible version of software
- ways to submit a PDF file to the digital printer
- OCR scanning
- scan resolution affecting document size and quality
- action required if a scanned image was too dark
- sort of scanner hardware and software configuration that could be used to digitally scan a hard copy multi-page document with text and images
- difference between colours displayed on a computer monitor and printed colour
- machine calibration affecting colour consistency
- using printed colour charts to perform colour matching to a proof
- what the acronym ICC stands for and what is the significance
- how a simulation profile affects colour output
- circumstances in which a job be modified before printing
- why margins should be changed when the job reaches the printer
- steps that need to be followed for client approval of the print
- what the proof is checked against
- type of proofing system that is available in the traditional pre-press
- recommendations that you could make regarding an appropriate proofing system for a specified print job
- document finishing and client delivery
- various types of binding
- procedures to be followed if the binding method required by the client was not available at your site
- why packaging finished print work is important

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- organisation skills to coordinate pre-press, print run, finishing and delivery production workflows
- produce and access complex electronic data
- conduct a digital proof run
- perform digital colour management
- adjust settings and ensure productivity
- perform preventive maintenance on digital printer
- demonstrate use of computerised control and monitoring systems if available and appropriate
- perform preventive maintenance tasks on a digital printer according to manufacturer's specifications
- prepare a written document that outlines production workflow and give reasons for production methods selected for a print job using the following job specifications within a specified production environment for:
 - 4-colour advertising brochure
 - quantity: 2000
 - substrate: 120gsm coated
 - text: supplied electronically
 - images: continuous tone photographs supplied
 - logos and line art: supplied electronically
 - layout: hand drawn thumbnails supplied
 - finished size: A3 bleed
 - finishing: guillotined, folded and saddle
 - packaging: boxed
- turnaround time: 100 in 48 hours and remainder in 14 days
- produce a digital colour proof of a supplied electronic file
- use a digital colour management system to perform colour matching to a supplied proof
- for valid and reliable assessment of this unit,

EVIDENCE GUIDE	
	<p>evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance</p> <ul style="list-style-type: none"> evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a digital printing machine and a digital front end.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPPR281C Set up and produce basic digital print ICPPR282C Produce and manage basic digital print ICPPR481C Set up and produce complex digital print.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Workflow</i> may include:	<ul style="list-style-type: none"> task breakdown of the print production cycle for a range of electronic data files, computer systems, digital front ends, industry software, workplace regulations and printing machines.
<i>Manufacturer's specifications</i> may include:	<ul style="list-style-type: none"> technical, administrator and user specifications documented by a manufacturer for a range of printing machines.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> may include rules, standards, OHS guidelines, communication protocols and behaviour codes of a range of workplace environments.
<i>Workstation computer</i> may include:	<ul style="list-style-type: none"> personal computer with either proprietary or non-proprietary operating systems used to create, access and edit electronic data files from a range of manufacturers eg Apple, IBM, UNIX.
<i>Industry software</i> may include:	<ul style="list-style-type: none"> range of software to design, create, access, edit and print electronic data files from a range of manufacturers eg Adobe, Quark Inc., Macromedia, Microsoft.
<i>Electronic data files</i> may include:	<ul style="list-style-type: none"> range of proprietary or non-proprietary data file formats compatible with a range of workstation computers and industry software.
<i>Pre-flight</i> may include:	<ul style="list-style-type: none"> user software designed to check, preview and edit to ensure data file integrity for a range of operating systems and printing machines.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of non-impact printing machines including inkjet and laser with or without colour manipulation capability, and including machines with computerised monitoring and/or control.
<i>Calibration</i> may include:	<ul style="list-style-type: none"> mechanical and/or electronic and/or visual controls used to identify and correct ink coverage and density inconsistencies in a range of printing equipment.

RANGE STATEMENT	
<i>Substrates</i> may include:	<ul style="list-style-type: none"> • range of print media and paper
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and matching under controlled lighting conditions.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor in-line processes such as perforating, numbering, date coding, imposition, that do not constitute another defined unit of competency. Major in-line process is defined as a separate competency eg flat-bed cutting, folding.
<i>Inking systems</i> may include:	<ul style="list-style-type: none"> • range of inks, dyes, toners commonly used in 2-colour printing, including special colours.
<i>Design</i> may include:	<ul style="list-style-type: none"> • 1-2 colour, simple graphics and text. Minor variation in registration position.
<i>User replaceable consumables</i> may include:	<ul style="list-style-type: none"> • consumables required to be changed by an individual if damaged or reached expiry. Used by a range of printing machines for correct functioning such as ink, toner, developer, waste toner, cleaning web, fuser, substrates.
<i>User control interface</i> may include:	<ul style="list-style-type: none"> • computerised monitoring and data entry device used to enter machine default settings, job specification settings, monitor machine status and perform machine productivity enhancements.
<i>Performance expectations</i> may include:	<ul style="list-style-type: none"> • manufacturer's documented statement of print machine productivity and quality capabilities and limitations eg substrate feed and speeds, substrate recommendations, substrate weight and size capabilities, productivity and performance issues associated with a variety of print jobs.
<i>Registration mechanisms</i> may include:	<ul style="list-style-type: none"> • mechanical and/or electronic controls used to adjust substrate position throughout substrate feeding and transport units of a range of printing machines.
<i>Digital front-end</i> may include:	<ul style="list-style-type: none"> • proprietary computer processor hardware and software required to interpret electronic data files and convert to print-ready data.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR383C Prepare for personalised digital printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up a digital printing press for personalised data printing.
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Application of the Unit

Application of the unit	This unit requires the individual to produce personalised digital print runs that involve setting the data files and ensuring the correct sequence.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the job specifications	1.1. All details required for the job are checked and confirmed against <i>job specifications</i> 1.2. The <i>correct materials</i> are checked and are available for the job 1.3. Printing equipment is checked that it is operating efficiently and safely 1.4. Post-printing requirements are accurately identified according to job specifications 1.5. The correct data files are accessed and data conforms to the job specifications
2. Set data requirements	2.1. Data files are set up and required dynamic links operate correctly and settings conform to the job specifications 2.2. Data is in the correct sequence required for the run 2.3. Data is checked to ensure it is uncorrupted
3. Set machine quality	3.1. Work area is safe and ready for production 3.2. The digital <i>printing machine</i> is set to run efficiently and safely 3.3. The image is complete, sharp, of the required strength, free from contamination and in register 3.4. Output can be achieved at the required quality standard and at the required speed 3.5. A sample from the machine is produced and checked for conformance to the job specifications 3.6. Adjustments are made when specifications are not met 3.7. If adjustments involve changes to materials, costs or time, supervisor or client are informed and approval secured 3.8. Set up is complete before the deadline for the start of production

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by placing data in the correct sequence required for the run
- collecting, analysing and organising information by identifying the requirements of the job
- planning and organising activities by correctly identifying post-printing requirements
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by checking data, where relevant, to ensure it is uncorrupted
- problem-solving skills by making adjustments to the machine when production standards are not met
- use of technology by setting up a digital printing press for variable data printing

Required knowledge

- job requirements
- information sources
- workflow
- printing machines
- result prediction
- data interpretation
- data interpretation
- data retrieval

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> manage and adjust the digital data to conform to print requirements prior to digital printing and produce personalised digital print runs that involve setting the data files and ensuring the correct sequence for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment digital printer.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Correct materials</i> may include:	<ul style="list-style-type: none"> • glues, papers, coated and uncoated, pre-printed.
<i>Printing machine</i> may include:	<ul style="list-style-type: none"> • production speeds, at least 30 duplex pages per minute, and quality of at least 600 dpi.
<i>Personalised</i> may include:	<ul style="list-style-type: none"> • involves the recipient's name and/address at least once.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR384A Set up and produce basic digital print

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to set up for and produce basic digitally printed product. This unit incorporates the use of raster image processor (RIP) technology when outputting to digital devices including wide format.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the production of basic digitally printed products in the instant print and copy shop business environment.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check components and functions of a digital print system	1.1. All areas of user replaceable <i>consumables</i> are checked and replacements made 1.2. <i>Substrate</i> feeding mechanisms and transport units are checked and cleared of any misfeeds 1.3. Correct set-up for data and electrical power is completed 1.4. Shutdown and restart procedures are performed according to manufacturer's specifications 1.5. Print driver and/or job download software are correctly installed and set-up on workstation computer and/or digital front-end processor
2. Maintain digital printing system to maximise productivity and quality	2.1. Routine maintenance tasks are performed according to <i>manufacturer's specifications</i> 2.2. Substrate transport and <i>inking systems</i> are cleaned to ensure optimum productivity and quality 2.3. Temperature and humidity conditions are checked to ensure even flow of substrate 2.4. Substrate registration mechanisms are checked to ensure alignment of printed images 2.5. Ink density <i>calibration</i> is performed on a digital print system to meet job specifications 2.6. Basic maintenance solutions to minimise ink residue, substrate misfeed, paper particle dust, uncalibrated systems and ink coverage are implemented
3. Maintain and perform optimum substrate handling procedures	3.1. A paper handling and storage system for a digital print environment are developed that maintains substrate integrity and digital image quality 3.2. <i>Machine</i> status is checked, print counters and consumable levels are reviewed and time estimated for reordering, servicing and reporting purpose
4. Confirm job specifications	4.1. Print job specifications are read and interpreted from job documentation or production control system 4.2. Availability of all job components is checked according to <i>enterprise procedures</i> 4.3. Finishing requirements of job are checked and internal workflow and/or outsource arrangements are coordinated according to enterprise procedures 4.4. Run time of job is calculated and completion time is estimated, allowing consideration for other

ELEMENT	PERFORMANCE CRITERIA
	production demands
5. Set up reel system	5.1. Unwind reel is adjusted according to job specifications 5.2. Rewind reel is set up and adjusted according to job specifications 5.3. Minor <i>in-line processes</i> are set up and adjusted according to job specifications
6. Set up sheet transportation system on sheet-fed machine	6.1. Substrate is loaded into correct feeding mechanism and all substrate properties are correctly specified in the user control interface 6.2. Adjustments to the delivery unit are identified and made using the user control interface according to job specifications 6.3. On-line finishing unit is adjusted using the user control interface according to job specifications
7. Use RIP or front-end processor to set up job	7.1. Electronic data files are located and retrieved according to job specifications 7.2. <i>RIP or front-end processor</i> parameters are set according to job specifications 7.3. Preview or preflight check of electronic data files is performed to verify correct job set-up according to job specifications 7.4. Basic troubleshooting methods are applied to identify and rectify unverified data files, file errors and job requirement inconsistencies according to manufacturer's specifications
8. Submit data files to a digital print machine	8.1. Job priority is determined according to job specifications and production schedules 8.2. Data file is submitted to print and image quality and machine productivity checks are performed
9. Produce digital proof and run digital print job	9.1. A proof run is conducted to confirm proof conforms to job specifications and/or for client approval if required 9.2. Entire print run is conducted according to job specifications ensuring that machine productivity and quality are monitored and rectified throughout the duration of the print job
10. Coordinate and/or perform document finishing and client delivery	10.1. Steps required for document finishing are identified if not performed on in-line finishing units on a reel or sheet-fed system according to job specifications

ELEMENT	PERFORMANCE CRITERIA
	10.2. Finished print work is packaged in a manner to prevent damage and to conform to delivery requirements according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for interpreting job tickets and requirements
- collecting, analysing and organising skills for collecting and assessing data about coating process and machine specifications and characteristics and how these interact
- planning and organising skills for identifying and providing information about time and materials requirements for set-up, production and finishing to ensure efficient operation
- teamwork skills for maintaining the production process in association with other workers
- numeracy skills for calculating substrate properties and production speeds to determine run length
- problem-solving skills for recognising proofing faults and determining adjustments to correct them
- technical skills for using computerised technology to access and adjust data files

Required knowledge

- workplace job ticket procedures
- pre-printing set-up checks and procedures
- file transfer actions, problems and solutions
- OHS issues relating to ink/toner
- determining the selection of specific ink/toner for varied printed products
- how to ensure the quality of ink/toner
- what to do if the required substrate was unavailable
- maximum weight of a substrate that can be printed on a specific machine
- minimum weight of a substrate that can be printed on a specific machine
- possible faults of printing on lightweight paper
- availability of pre-prepared substrates for specific machine
- maximum delivery quantity for specific machine
- possible problems regarding incorrect feeding and delivery
- data formats that can be used in digital print
- the benefits of using electronic data rather than scanning hard copy
- ways to submit a PDF file to the digital printer
- OHS procedures relating to setting up in-line processes
- in-line options that are available on specific machine
- on-line finishing options that are available on specific machine

REQUIRED SKILLS AND KNOWLEDGE

- setting up in-line/on-line processes
- circumstances when a job would be modified before printing
- the steps involved for a client approval of the print
- proof check procedures
- processes involved for gaining final approval of a basic job
- various types of binding
- procedures followed if the binding method required by the client was not available at the workplace
- alternative options if the document size was too thick to staple
- importance of packing finished print work
- location of machine manuals, safety and other documentation relevant to the set up and production of digitally printed products

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- set up a reel, sheet-fed or wide format digital printer
- access data and conduct a digital proof run
- adjust settings and ensure production speeds are attained
- use a RIP or front-end processor
- find and use information relevant to the task from a variety of information sources
- demonstrate all safety devices on machine
- perform preventive maintenance according to manufacturer's specifications
- set up and print four basic digital printing jobs according to manufacturer's specifications and enterprise procedures.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for digital printing, such as production digital presses or wide format printers
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when setting up and producing a basic digitally printed product.

Guidance information for

Holistic assessment with other digital production units

EVIDENCE GUIDE

assessment

relevant to the workplace and job role is recommended.
For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Consumables</i> may include:	<ul style="list-style-type: none"> • ink • toner • developer • waste toner • cleaning web • fuser • various substrates.
<i>Substrates</i> may include:	<ul style="list-style-type: none"> • range of print media and paper, such as: <ul style="list-style-type: none"> • coated • uncoated • card • canvas • vinyl and plastic.
<i>Manufacturer's specifications</i> may include:	<ul style="list-style-type: none"> • technical, administrator and user specifications documented by a manufacturer for a range of printing machines.
<i>Inking systems</i> may include:	<ul style="list-style-type: none"> • commonly used inking systems in colour printing, such as: <ul style="list-style-type: none"> • toner • inkjet • liquid toner-based.
<i>Calibration</i> may include:	<ul style="list-style-type: none"> • mechanical and/or electronic and/or visual controls used to identify and correct ink coverage and density inconsistencies in a range of printing equipment.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • non-impact printing machines, including: <ul style="list-style-type: none"> • inkjet • laser • wide format with computerised monitoring and/or control.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • rules • standards

RANGE STATEMENT	
	<ul style="list-style-type: none"> • OHS guidelines • communication protocols and behaviour codes of a range of workplace environments.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • stapling • punching • perforating • cutting • numbering or date coding.
<i>RIP or front-end processor</i> may include:	<ul style="list-style-type: none"> • computerised monitoring and data entry device used to enter: <ul style="list-style-type: none"> • machine settings • job specification settings • monitor machine status • perform machine productivity enhancements.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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ICPPR385A Apply software applications to digital production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to correctly select and use a variety of high-end software applications to efficiently produce a standard job.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the creation of a basic job, using multiple applications for individuals working in the digital printing sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPSU281C	Use computer systems

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and assess software	1.1. Printing requirements of the layout brief are determined to align with digital production processes and printing feasibility 1.2. Range of <i>software applications</i> is selected according to job specifications 1.3. Appropriate software applications are used to complete components of the job according to manufacturer's specifications and enterprise standards
2. Arrange elements on page	2.1. Client copy and images are assembled to conform to the design brief 2.2. Text is prepared and required fonts and font size are applied 2.3. <i>Basic elements</i> and images are created and arranged on the page to conform to the design brief 2.4. Image resolution and colour mode are determined according to job specifications, help function is accessed, if required, and solution to queries found 2.5. <i>Document set-up</i> is completed to conform to the design brief and job specifications
3. Check quality	3.1. Text is reviewed for possible errors and omissions, and errors are discussed with client or supervisor 3.2. Arrangement of the basic elements are arranged to adhere with design principles 3.3. Hard copy proof is printed and rechecked for errors, omissions and overall design of the layout 3.4. Necessary changes are made and reviewed and re-proofed as required 3.5. The job is saved according to <i>enterprise procedures</i>
4. Use RIP to output job	4.1. The layout is imported into a <i>raster image processor (RIP) or front-end processor</i> according to workplace procedures 4.2. The layout is printed according to job specifications and enterprise standards

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills for gaining client agreement on design layout
- collecting, analysing and organising skills for storing and retrieving all required electronic files
- planning and organising skills for outputting a proof and gaining approval by the client
- teamwork skills for maintaining the production process in association with others
- numeracy skills for expressing ideas and techniques by determining image resolution
- problem-solving skills for checking and fixing errors when preflighting
- technical skills for selecting relevant hardware and software to produce a layout

Required knowledge

- different printing processes used in digital production
- colour modes and how they affect output
- how image resolution is governed by output resolution and/or viewing distance
- various software applications and their usages in relation to digital production
- how the job specifications determine typeface selection
- effect typefaces have on readability
- design principles, such as hierarchy, emphasis, contrast, alignment, repetition and flow
- how to select and manipulate type within a layout application
- image manipulation techniques including basic colour correction
- how to create basic vector shapes with an application
- different colour modes and their uses
- preflighting procedures
- the various ways to import a job into a RIP
- location of manuals, safety and other documentation that are relevant to high-end software applications for digital production

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use a variety of software applications to first produce a layout, then a printed product according to job specifications • find and use information relevant to the task from a variety of information sources • use at least two software applications to prepare and print two different sets of layouts according to enterprise standards.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for digital production, such as high-end computers, RIPs, output devices and layout software • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence • third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate when applying software applications for digital production.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPP211C Develop a basic design concept • ICPPP221C Select and apply type.

EVIDENCE GUIDE	
	For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Software applications</i> may include:</p>	<ul style="list-style-type: none"> • Adobe Indesign • Illustrator • Photoshop • QuarkXpress • Corel • RIPs and front-end processors • new software applications and new versions of existing products entering the market regularly.
<p><i>Basic elements</i> may include:</p>	<ul style="list-style-type: none"> • simple filled or unfilled boxes • frames • rules (lines) or bullets used as accents or to divide a page into sections.
<p><i>Document set-up</i> may include:</p>	<ul style="list-style-type: none"> • margins • page size • page orientation • number of pages • arrangement of pages.
<p><i>Enterprise procedures</i> may include:</p>	<ul style="list-style-type: none"> • various filing methods and techniques including: <ul style="list-style-type: none"> • network drives • DVDs and archiving systems.
<p><i>Raster image processor (RIP) or front-end processor</i> may include:</p>	<ul style="list-style-type: none"> • computerised monitoring and data entry device used to enter: <ul style="list-style-type: none"> • machine settings • job specification settings • monitor machine status and perform machine productivity enhancements.

Unit Sector(s)

<p>Unit sector</p>	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR386A Troubleshoot digital media

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to problem solve failed digital media processes and products. It includes logical systematic analysis to determine the source of a problem so it can be solved.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>The unit requires the application of troubleshooting techniques to solve problems in relation to digital media, for individuals working in the digital sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify substandard process performance	1.1. Operation of <i>printing device</i> is determined to manufacturer's specifications 1.2. Outputs are identified as consistent with normal operation by comparison to proofs, dummy copies or samples 1.3. Signs of equipment degradation and impending failure are identified and appropriate follow-up action is taken according to <i>workplace procedures</i> 1.4. Equipment outputs are inspected to determine nature of the problem 1.5. Nature of substandard performance is defined and reported
2. Identify causes of substandard performance	2.1. Causes of substandard performance are identified using a <i>process for investigation</i> 2.2. Records are reviewed to ensure that device had been maintained according to manufacturer's specifications 2.3. Calibration records are reviewed to ensure system is within calibration 2.4. Appropriate test procedure, <i>materials</i> and equipment are verified 2.5. Performance tests are conducted as appropriate to investigation 2.6. Equipment and/or testing variables are analysed to develop list of possible causes of substandard performance 2.7. Causes of substandard performance are isolated using the process for investigation
3. Propose corrective action	3.1. Corrective action is proposed and trialled based on investigation 3.2. Trial data is monitored to ensure outputs are consistent with normal operation 3.3. Trial results are reviewed to confirm validity of corrective action 3.4. Workplace records are maintained as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for expressing ideas and information by interpreting job tickets and requirements
- collecting, analysing and organising skills for collecting and assessing data about how machine specifications affect substrate performance
- literacy skills sufficient to prepare reports, briefing notes and complete workplace documentation
- planning and organising skills for testing the performance of different substrates on output devices
- teamwork skills for maintaining the production process in association with other workers
- numeracy skills for using densitometry when calibrating for different substrates
- problem-solving skills for recognising performance faults and determining adjustments to correct them
- technical skills for using a range of printing devices

Required knowledge

- relevance and location of machine manuals, safety and other documentation and the information included in these documents
- location of other sources of information
- output devices expected for printing performance on a particular substrate
- how the same substrate can perform differently on various output devices
- how moisture can affect print quality
- correct storage procedures for substrates
- different printing defects that can be caused by lack of calibration
- problem-solving methodologies, including empirical, Ishikawa and brainstorming
- research techniques
- online forums and networks

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • identify substandard printing performance and apply corrective solutions • find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for digital printing, such as full-colour production, digital presses or wide format printers • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence • third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate in applying troubleshooting techniques to solve problems in relation to digital media.
Guidance information for assessment	<p>Holistic assessment with other digital production units relevant to the workplace and job role is recommended, such as:</p> <ul style="list-style-type: none"> • ICPPR392A Set up and produce specialised digital print. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent</p>

EVIDENCE GUIDE

performances.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Printing devices</i> may include:	<ul style="list-style-type: none"> • non-impact printing machines, including: <ul style="list-style-type: none"> • inkjet • laser • wide format with computerised monitoring and/or control.
<i>Workplace procedures</i> may include:	<ul style="list-style-type: none"> • notifying the supervisor • notifying the maintenance department • contacting the equipment supplier manufacturer.
<i>Process for investigation</i> may include:	<ul style="list-style-type: none"> • empirical • diagnostic investigation using manuals and service calls.
<i>Materials</i> may include:	<ul style="list-style-type: none"> • range of print media and paper, such as: <ul style="list-style-type: none"> • coated • uncoated • card • canvases • vinyl and plastic.

Unit Sector(s)

Unit sector

Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR387A Use colour management for production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to obtain an acceptable match across colour devices. It includes the correct use of colour profiles and calibration of monitors and output devices.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the individual to manage colour in digital production operations to ensure that proofs, monitors and final products match.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPR284A	Introduction to colour management

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify colour requirements	1.1. Printing conditions are determined to identify colour management requirements 1.2. Printer's requirements are established to guide the provision and use of colour profiles
2. Calibrate digital devices	2.1. All <i>digital devices</i> in the workflow are calibrated to produce accurate colour reproduction 2.2. Device profiles created during calibration are correctly used and stored 2.3. Digital devices are checked regularly to ensure they are still within calibration 2.4. Profiles or equipment parameters are adjusted to bring devices back into calibration, when required 2.5. Records are stored to ensure calibration occurs regularly
3. Use colour profiles	3.1. Source and destination profiles are identified within the workflow 3.2. Profiles are used to ensure that colour on monitors, proofs and final product match as closely as possible 3.3. Images are converted to correct profile if incorrect profile is embedded 3.4. The correct rendering intent is used to ensure accurate conversion of colour
4. Configure software within the workflow	4.1. <i>Software applications</i> in the workflow with colour management features are determined 4.2. Software applications with colour management features are configured to meet output condition 4.3. A range of colour management presets are configured, saved and correctly used for various output conditions
5. Maintain colour management workflow	5.1. The colour management system is checked regularly to ensure consistent colour match 5.2. <i>Monitors</i> are calibrated regularly to ensure accurate reproduction of colour 5.3. Digital devices are re-calibrated regularly or when <i>conditions change</i> from initial calibration

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills for expressing ideas and information by printing a test file on proofer
- collecting, analysing and organising skills for determining printing conditions in order to identify colour management requirements
- planning and organising skills for clarifying colour requirements before generating a proof
- teamwork skills for maintaining the production process in association with others
- numeracy skills in relation to densitometry, spectrophotometry and colour profiles
- problem-solving skills used when diagnosing and correcting colour problems
- self-management and learning skills to evaluate and enhance personal effectiveness
- technical skills for utilising software and hardware correctly to ensure consistency of output

Required knowledge

- OHS issues related to managing colour for digital production
- densitometric and spectrophotometric measurement
- International Colour Consortium (ICC) profiles and their use
- device independent colour and profile connection spaces
- colour space conversions and rendering intents
- effects ICC profiles have on output
- factors that influence selection of highlight and shadow aim points
- grey balance requirements in relation to colour correction
- process of determining grey balance requirements
- ink/toner light errors - 'ideal' versus 'actual' inks/toners
- viewing light conditions and metamerism
- factors determining the requirement for colour correction
- how different stocks affect colour
- effects different inks have on colour reproduction for proofing and final production
- how dot gain affects colour
- type of press and what printing process are being used for final output
- solutions to common problems for colour management
- effects of using the wrong profile on output
- sources of information about colour management

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- manage colour in pre-press operations to ensure that proofs, monitors and final products match
- locate and use information relevant to the task from a variety of information sources
- check monitors and software to ensure that they have different loaded profiles that match jobs
- apply colour management system maintenance procedures
- produce three jobs with final product printed on various stocks and matching digital proofs on simulated stock.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for colour management production, such as high-end graphics and layout software, densitometers, high-end colour output devices, proofing systems, scanners and digital cameras
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- a portfolio that demonstrates all criteria have been met
- practical demonstration by the candidate in matching proofs, monitors and the final product.

Guidance information for

Holistic assessment with other units relevant to the

EVIDENCE GUIDE

assessment

industry sector, workplace and job role is recommended, for example:

- ICPPP324C Create pages using a page layout application
- ICPPP325C Create graphics using a graphics application
- ICPPP386C Undertake digital proofing
- ICPPP322C Digitise images for reproduction.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Digital devices</i> may include:	<ul style="list-style-type: none"> • monitors • proofers • printers • scanners • digital cameras • digital presses.
<i>Software applications</i> may include:	<ul style="list-style-type: none"> • colour management software, e.g. Colorsync • page layout software, e.g. InDesign and/or QuarkXPress • image editing software, e.g. Photoshop and/or Illustrator • raster image processors (RIPs), e.g. Apogee, Spire and Fiery.
<i>Monitors</i> may include:	<ul style="list-style-type: none"> • range of monitors used in the pre-press sector, including: <ul style="list-style-type: none"> • cathode ray tube (CRT) • liquid crystal display (LCD).
<i>Conditions</i> may include:	<ul style="list-style-type: none"> • change of stock • ink cartridge • lighting.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR388A Preflight and import complex images for digital devices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to confirm that digital files required for the printing process are all present, valid, correctly formatted and of the desired format to be imported into a digital device.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the application of preflight procedures and importation of files into raster image processors (RIPs) for individuals working in the digital sector of the printing industry.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access and preflight electronic files	<p>1.1. Electronic data <i>files</i> are located and retrieved using a workstation computer and <i>industry software</i> according to job specifications</p> <p>1.2. <i>Preflight</i> check of electronic data files is performed to verify correct job set-up according to job specifications and problems associated with file are identified</p> <p>1.3. Troubleshooting methods are applied to identify <i>file errors</i> and job requirement inconsistencies</p> <p>1.4. Solutions are implemented to rectify errors according to job specifications</p> <p>1.5. Preflight presets are configured for various job specifications</p>
2. Import file to RIP or job queue	<p>2.1. Correct output profile is selected according to job specifications</p> <p>2.2. Most productive <i>submission workflow</i> is selected and documented based on data file format, quantity and file size and document finishing</p> <p>2.3. Job priority is determined according to job specifications and production schedules</p> <p>2.4. Print driver and/or job download software is correctly installed and set up on workstation computer and/or digital front-end processor</p> <p>2.5. Manufacturer's installation instructions are located and/or software installation is coordinated according to enterprise procedures</p> <p>2.6. Data file is submitted to <i>output device</i>, image quality and machine productivity checks are performed and adjustments made to correct any problems</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communicating ideas and information by interpreting implicit and explicit requirements of the job brief
- collecting, analysing and organising information by matching information on production requirements and formats with the job brief
- planning and organising skills by planning the sequence of operations to facilitate smooth processing of the job
- teamwork skills when maintaining the production process in association with others
- numeracy skills for calculating correct resolution for output device
- problem-solving skills by correcting mistakes in electronic files to conform with job specifications
- technical skills for using equipment correctly to ensure ease of subsequent processing

Required knowledge

- printing processes
- required resolution for various output conditions
- colour modes and how they affect output
- trapping and overprint requirements
- screens - types and angles
- bleed amounts required for various jobs
- impact font types and licensing can have on output
- preflighting tools available in various applications
- different file types and how they can effect output
- factors that influence the processing speed of a job when being ripped
- how the ripping speed of a job can be increased

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> import electronic files into RIPs or output queues that are error free and meet job specifications find and use information relevant to the task from a variety of information sources preflight and import two complex jobs according to manufacturer's specifications and enterprise procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment and materials used for digital production, such as high-end computers, RIPs, output devices and layout software use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate in applying preflight procedures and importing files into RIPs.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p> <ul style="list-style-type: none"> ICPPR496A Set up and produce complex digital print. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range</p>

EVIDENCE GUIDE	
	of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Files</i> may include:	<ul style="list-style-type: none"> • full colour jobs with a mixture of text and images.
<i>Industry software</i> may include:	<ul style="list-style-type: none"> • Adobe Indesign • Illustrator • Acrobat and/or QuarkXpress • new software applications and new versions of existing products entering the market regularly.
<i>Preflight</i> may include:	<ul style="list-style-type: none"> • manually checking files • using an applications built in preflight functions • plug-ins, such as PitStop or other proprietary software.
<i>File errors</i> may include:	<ul style="list-style-type: none"> • low image resolution • incorrect colour modes • lack of bleeds • missing links • locked fonts • incorrect trapping and overprint settings.
<i>Submission workflow</i> may include:	<ul style="list-style-type: none"> • direct output from application • drop folders • manual import.
<i>Output device</i> may include:	<ul style="list-style-type: none"> • digital press • wide-format printer • computer to plate (CTP).

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR389A Manage digital files

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to store and retrieve electronic files for efficient access.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the application of digital file management procedures for individuals working in the digital sector of the printing and graphic arts industry.</p> <p>Individuals will respond to clearly defined briefs and work under limited supervision.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Save digital files	<p>1.1. A logical digital <i>file system</i> of folders and sub-folders is created and file is named using enterprise format</p> <p>1.2. File is saved using <i>appropriate format</i> into digital file system</p> <p>1.3. <i>Version control</i> is used to ensure the most recent file can be accessed</p>
2. Retrieve and manage digital files	<p>2.1. Required files are retrieved and opened from digital file system</p> <p>2.2. Computer search functions are used to find incorrectly stored files</p> <p>2.3. File is sent to <i>required location</i> and any naming errors are amended</p>
3. Archive digital files	<p>3.1. <i>Archive system</i> is created according to enterprise protocols</p> <p>3.2. Consistent, regular backup strategies are undertaken to allow for retrieval of files if there is a data loss event</p> <p>3.3. Files are retrieved from archive system</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills for creating a digital file system
- collecting, analysing and organising skills for storing and retrieving files
- planning and organising skills for backing up and archiving files regularly
- teamwork skills for maintaining the digital file system in association with others
- numeracy skills for storing files with job numbers
- problem-solving skills used when locating lost files
- self-management and learning skills to evaluate and enhance personal effectiveness
- technical skills for using technology when utilising computer to store files

Required knowledge

- OHS factors that need to be addressed when using a computer
- location of manuals, safety and other documentation relevant to digital file management procedures and the information included in these documents
- elementary computer operating system functions
- file hierarchy
- advantages and disadvantages of different file systems
- file size and how it impacts on hard drive space
- different file types and how this relates to file size
- how to rename a file
- version control procedures
- operating systems search function
- backup processes
- different achieve formats

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> store, retrieve and archive various file types find and use information relevant to the task from a variety of information sources.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment and materials used for digital file management, such as high-end computers, network hard drives, external hard drives, DVDs and BlueRay discs use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate storing and retrieving electronic files.
Guidance information for assessment	<p>Holistic assessment with other digital production units relevant to the workplace and job role is recommended, such as:</p> <ul style="list-style-type: none"> ICPPR385A Apply software applications to digital production. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>File system</i> may include:	<ul style="list-style-type: none"> • disk • database • flash • transactional • network or shared disk file system.
<i>Appropriate format</i> may include:	<ul style="list-style-type: none"> • Adobe InDesign • Adobe Photoshop • Adobe Illustrator • tagged image file format (TIFF) • PDF • postscript (PS) • ZIP • encapsulated postscript (EPS).
<i>Version control</i> include:	<ul style="list-style-type: none"> • automated versioning functions or manual techniques, such as naming conventions or folder structure.
<i>Archive system</i> may include:	<ul style="list-style-type: none"> • large storage hard drives • DVDs • BlueRay or online storage solutions.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR390A Generate a proof for digital production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to generate a proof on the printing device used for final production.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the generation and approval of proofs for individuals working in the digital sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Produce proof on printing device	1.1. <i>Printing device</i> is calibrated according to manufacturer's specifications 1.2. Appropriate colour profiles are selected to ensure consistent output of colour 1.3. The same <i>substrate or product</i> is used to generate a proof that will be used for the final production run 1.4. Proof is produced according to job specifications and workflow procedures 1.5. Proof is used to make a <i>mock up</i> to simulate the finishing of the final product according to job specifications
2. Assess proof against specifications	2.1. Proof is checked against job specifications to confirm validity and identify and rectify any <i>defects</i> 2.2. The proofing process is repeated if proof does not meet job specifications and enterprise standards
3. Communicate proof with client	3.1. Proof is labelled with appropriate information according to enterprise standards 3.2. Feedback is gained from client to acquire 'sign off' 3.3. Amendments are made if required and resubmitted to client for 'sign off' 3.4. Proof is stored according to workplace procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills for gaining client agreement on a contract proof
- collecting, analysing and organising skills for checking machine calibration
- planning and organising skills for calibrating the proofing device prior to producing a proof
- teamwork skills for maintaining the production process in association with others
- numeracy skills for using a densitometer to evaluate the proof
- problem-solving skills for checking the data file for structural compatibility
- technical skills for using relevant hardware and software to produce a digital proof

Required knowledge

- OHS issues related to digital proofing for digital production
- colour theory, including additive and subtractive colours, RGB and CMYK
- varying colour gamut's between colour modes
- colour management workflow set-up procedures
- use of output profiles in relation to simulation
- how regular calibration will help to ensure consistent colour output
- quality control systems used in proofing
- techniques that can be used to control quality
- how to use standard viewing conditions to assess colour output
- how to use colour evaluation charts
- criteria for evaluating a colour proof
- differences between preliminary proofs and a contract proof
- types of substrates that can be used in proofing
- inks, toners and coatings that can be used in digital printing
- how to handle and store materials to ensure quality
- types of finishing techniques used in digital production
- location of relevant manuals, safety and other documentation that are relevant digital printing and the information included in these documents
- where other sources of information are available

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- calibrate a digital device to ensure consistent colour output
- produce a proof that gains approval from a client and matches the final production run
- find and use information relevant to the task from a variety of information sources.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for colour management production, such as high-end colour output devices and raster image processors (RIP) with colour management features
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when producing a proof to job specifications.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended.

- ICPPR496A Set up and produce complex digital print
- ICPPR286A Finish a digital product.

For valid and reliable assessment of this unit, evidence

EVIDENCE GUIDE	
	should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Printing device</i> may include:	<ul style="list-style-type: none"> • non-impact colour printing devices, including: <ul style="list-style-type: none"> • inkjet • laser • wide format with computerised monitoring and/or control.
<i>Substrates or products</i> may include:	<ul style="list-style-type: none"> • range of print media and paper, such as: <ul style="list-style-type: none"> • coated • uncoated • card • canvas • vinyl and plastic.
<i>Mock up</i> may include:	<ul style="list-style-type: none"> • a finished product that may be trimmed, bound, stapled or folded • a reduced in size and/or partial print of the final job if proofing for wide format.
<i>Defects</i> may include:	<ul style="list-style-type: none"> • physical defects (scratches and tears) • colour irregularities • poor image resolution • errors in trapping and knockout of colours • incorrect size and orientation of pages or images.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR392A Set up and produce specialised digital print

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to set up for and produce specialised digitally printed products. This unit incorporates the use of non-standard substrates and raster image processor (RIP) settings.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the individual to evaluate job specifications, setup RIP and produce specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm specialised job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Availability of all job related components is checked and recorded
2. Plan and carry out specialised set-up	2.1. <i>Specialised</i> job specifications are identified and analysed 2.2. Specialised set-up requirements are determined 2.3. Specialised set-up is completed in minimum time and with minimum wastage
3. Set up RIP for specialised digital printing	3.1. <i>RIP</i> functions are analysed to determine appropriate settings according to specialised job requirements 3.2. Experimentation is undertaken with RIP functions to determine settings according to specialised job requirements 3.3. Problems are solved effectively to minimise waste and excess costs 3.4. Documentation and other forms of information are accessed to determine source of any problems 3.5. Most productive way to complete the job is determined
4. Test and select substrate	4.1. <i>Substrate</i> specifications are investigated to determine print feasibility 4.2. Test print run is conducted to confirm substrates appropriateness with job requirements 4.3. Appropriate substrate is selected based on print feasibility and job requirements
5. Conduct specialised proof run	5.1. Material to be used for specialised proof is organised correctly 5.2. Machine is operated according to manufacturer's specifications and enterprise procedures to produce a specialised proof 5.3. Specialised proof is visually inspected to enterprise procedures 5.4. Client approval or authority is sought prior to production run where appropriate 5.5. Results are interpreted and adjustments are carried out according to product and machine specification
6. Refine and document specialised print	6.1. Corrective or preventive action is recommended and implemented where appropriate

ELEMENT	PERFORMANCE CRITERIA
process	6.2.Changes are communicated to relevant personnel in a logical and easily understood manner 6.3.Changes are monitored to confirm improvement to production efficiency 6.4.Ongoing problems are reported according to enterprise procedures and process is documented according to enterprise standards 6.5.Documentation is filed so it can be easily retrieved and used as a reference for future similar jobs

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising skills for collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising skills for providing information about time and materials requirements for production scheduling
- teamwork skills for cooperating with other workers and coordinating the production unit to ensure efficient operation
- numeracy skills for calculating substrate requirements and RIP functions
- problem-solving skills for recognising sub-standard print quality and making adjustments to meet job specifications
- technical skills for using RIP or front-end processor to complete job
- documenting solutions and report writing

Required knowledge

- job specifications
- production problems
- with whom to discuss any production problems
- all the functions and settings available on a particular RIP or front-end processor
- advanced RIP settings, such as using dynamic variables to select stock
- where to source information regarding complex RIP usage
- the types of substrates that are suitable for various digital processes
- the theory behind several digital processes and how this has an impact on substrate usage
- problem-solving methodologies, including Empirical, Ishikawa and brainstorming
- online forums and networks
- OHS issues in relation to each digital process
- where documentation or other information can be found regarding specialised digital processes

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- *analyse and problem-solve issues relating to printing a non-standard product*
- *use complex RIP or front-end processor settings*
- set up a RIP and digital printing machine for a specialised job on two occasions according to manufacturer's and job specifications and enterprise procedure.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for digital printing, such as full-colour production digital presses or specialised wide format printers
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when setting up and producing a specialised digitally printed product.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent

EVIDENCE GUIDE

performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Specialised</i> may include:</p>	<ul style="list-style-type: none"> • the set-up and production of print runs that involve new products • a new mix of substrates that requires a certain amount of problem solving and experimentation with the substrate and RIP settings • the set-up of equipment and production • development of new set-up and production approaches • solving technical problems arising from new product • equipment combinations.
<p><i>RIP</i> may include:</p>	<ul style="list-style-type: none"> • computerised monitoring and data entry device used to enter: <ul style="list-style-type: none"> • machine settings • job specification settings • monitor machine status.
<p><i>Substrate</i> may include:</p>	<ul style="list-style-type: none"> • range of substrates within the major categories of: <ul style="list-style-type: none"> • paper • pressure sensitive material • board • plastics • related films • metal.

Unit Sector(s)

<p>Unit sector</p>	<p>Printing and graphic arts</p>
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR393A Set up for basic relief printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for basic relief printing. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
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Application of the Unit

Application of the unit	This unit requires the individual to set up reel- or sheet-fed platen, cylinder or rotary printing machines for routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set-up is carried out correctly in minimum time with minimum wastage and availability of all job related components is checked
2. Set up reel system	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 2.3. Reels are spliced/joined according to job specifications 2.4. Printed web viewing devices are set up and adjusted according to job specifications 2.5. Folder and sheets are set up and adjusted according to job specifications 2.6. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Set up sheet transportation system on sheet-fed machine	3.1. Feeder and delivery sections are set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation systems are set up and adjusted according to job specifications 3.3. Transfer and control systems are set up and adjusted according to job specifications 3.4. Set-off/marketing prevention devices are set up and adjusted according to job specifications 3.5. Substrate is added to and removed from process according to job instructions
4. Select and prepare inks and additives	4.1. Quality and suitability of inks , dyes or additives are selected according to job specifications and end-user requirements 4.2. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken 4.3. Inks, dyes and additives are prepared according to occupational health and safety (OHS) requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications

ELEMENT	PERFORMANCE CRITERIA
	<p>4.5. Formulation of the ink, colour match and the approved colour are appropriately recorded</p> <p>4.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and to prolong shelf life</p>
<p>5. Select and prepare embellishment dyes</p>	<p>5.1. Quality and suitability of dies are selected according to job specifications and end user requirements</p> <p>5.2. Dyes are prepared according to OHS requirements, manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>5.3. Dyes are appropriately labelled, handled and stored according to manufacturer's/suppliers instructions to prevent damage and hazards to personnel and to prolong shelf life</p> <p>5.4. Impression is set up and adjusted according to job specifications (platen and rotary)</p> <p>5.5. Inking system is set up and adjusted according to the relief process and job specifications (platen and rotary)</p> <p>5.6. Drying system is set up and adjusted according to job specifications</p>
<p>6. Set up machine for basic relief printing</p>	<p>6.1. Appropriate relief plates are selected and secured to the <i>machine</i></p> <p>6.2. Relief plates or formes or cylinders are positioned and set up and adjusted according to job specifications (platen and rotary)</p> <p>6.3. Impression is set up and adjusted according to job specifications (platen and rotary)</p> <p>6.4. Inking system is set up and adjusted according to relief process and job specifications (platen and rotary)</p> <p>6.5. Drying system is set up and adjusted according to job specifications</p>
<p>7. Set up machine for basic embellishment</p>	<p>7.1. Appropriate dyes are selected and secured to the machine</p> <p>7.2. Dyes are positioned and set up and adjusted according to job specifications (platen and rotary)</p> <p>7.3. Impression is set up and adjusted according to job specifications (platen and rotary)</p>

ELEMENT	PERFORMANCE CRITERIA
8. Conduct proof run	8.1. Material to be used for proof is organised correctly 8.2. Machine is operated according to manufacturer's and enterprise producers to produce specified proof 8.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures 8.4. Client approval or authority is sought prior to production run where appropriate. 8.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications to determine adjustment requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for interpreting job tickets and requirements
- collecting, analysing and organising skills for collecting and assessing data about printing process and machine specifications and characteristics and how these interact
- planning and organising skills for providing input into production scheduling about time requirements for set-up to ensure efficient operation
- teamwork skills for working with others to coordinate set-up to ensure efficient operation
- numeracy skills for calculating plate position and substrate requirements for the job
- problem-solving skills for recognising proofing faults and determining adjustments to correct them
- technical skills for using monitoring equipment and interpreting readouts

Required knowledge

- interpreting job specifications:
 - actions to be taken if vital information was missing from the job ticket
 - checks to be undertaken prior to set-up
- relief plates:
 - effect of plates with poor relief
 - importance of caliper of mounting material
 - positioning the plate on the mount
 - ensuring the edges of the plate do not lift
- reel in-feed:
 - major OHS concerns when setting up the reel in-feed
 - determining the printing side of the material
 - effect of low web tension on the print
 - other types of web splices that could be used appropriately for the job
- sheet in-feed:
 - major OHS concerns when setting up the sheet in-feed
 - how the sheet position is determined for the job
 - the effect that side lay selection has on the job
 - appropriate selection of front lays
 - procedures for a register check

REQUIRED SKILLS AND KNOWLEDGE

- reasons why a two-sheet cut is used on most feeders
- means by which the machine knows if the sheet is missing or late
- reel delivery system:
 - the effect of excessive web tension at the rewind of the machine
 - the major risks associated with the rewind of the machine
- sheet delivery system:
 - why application of spray powder is sometimes advisable
 - effects of too much spray powder
 - use of slowdown devices in the delivery
 - effect of excessive jogging on the stack
- preparation of inks and additives:
 - main environmental and OHS concerns about inks and additives
 - matching ink to a particular job
 - results of ink being too tacky
 - process for changing ink that is too light
 - methods that are available to check the ink for correct colour
 - responsibility for passing the colour prior to running the job
- machine set-up:
 - OHS concerns when setting up the machine
 - determining specifications relating to the specific job
 - effects incorrectly set inking rollers have on the print
 - ways in which the ink profile may vary across the machine
 - optimum ink duct sweep
- basic in-line processes:
 - precautions that should be taken if UV drying is to be utilised to dry the ink film
 - steps to be taken to incorporate the in-line processes into the make ready
 - how can the equipment used in in-line processing be protected against damage during set-up
- proofing and adjustment:
 - methods that can be used to minimise waste during make ready
 - procedures to be adopted to have the print approved
 - quality control measurements applied to the print to test against known standards
 - checks on the initial print prior to running
 - settings to be adjusted are determined
 - process to be used to plot the success of the machine adjustment
 - recording final results for future reference

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• information sources• machine manuals, safety and other documentation relevant to basic relief printing |
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Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- set up reel- or sheet-fed platen, cylinder or rotary printing machines for routine print jobs
- conduct a proof run and adjust settings to ensure production speeds are attained
- use computerised control, monitoring and data entry systems if available and appropriate
- find and use information relevant to the task from a variety of information sources
- demonstrate all safety devices on the machine
- manipulate embellishment tools and operations
- set up for two basic relief printing jobs (if possible including at least one in-line process) according to manufacturer's specifications and enterprise procedures.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities and equipment, including reel or sheet-fed platen, cylinder or rotary printing machine
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate in setting up machinery for routine print jobs.

Guidance information for

Holistic assessment with other units relevant to the

EVIDENCE GUIDE**assessment**

industry sector, workplace and job role is recommended, for example:

- ICPSU201C Prepare, load and unload reels and cores on and off machine
- ICPSU202C Prepare, load and unload product on and off machine
- ICPSU207C Prepare machine for operation (basic)
- ICPSU211C Prepare ink and additives
- ICPPR288A Produce basic relief printed product.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrates</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of: <ul style="list-style-type: none"> • paper • pressure sensitive material • board • plastics • related films or metal.
<i>Inks</i> may include:	<ul style="list-style-type: none"> • range of standard inks commonly used in 1-2 colour printing.
<i>Colour</i> may include:	<ul style="list-style-type: none"> • use of visual colour assessment and densitometry to match basic standard colours under controlled lighting conditions.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • a range of platen, cylinder and rotary printing machines with manual, semi-automated, fully automated or computerised process control.

Unit Sector(s)

Unit sector	Printing and graphic arts
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR394A Produce complex relief printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex relief printed product.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to operate a platen, cylinder or rotary printing machine ensuring an efficient non-routine production flow that maintains product quality standards.</p> <p>It involves anticipating and rectifying any production problems with minimum downtime and ensuring the <i>machine</i> is correctly shutdown and cleaned according to occupational health and safety (OHS) guidelines.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain non-routine operation of reel system	1.1. Reel stand and rewind section are monitored and adjusted to maintain correct tension and to ensure no marks, blemishes or damage to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from the process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery 1.5. Set-off/marketing prevention system is monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof
2. Maintain operation of sheet system	2.1. Feeder and delivery are monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from process according to job instructions
3. Maintain complex relief printing process	3.1. Relief polymer forme or plate cylinder condition is monitored and adjusted to ensure the quality of the printed product meets the standard of the sample sheet 3.2. Relief polymer impression surface condition is monitored and adjusted to ensure the quality of the printed product meets the standard of the sample sheet 3.3. Relief polymer inking system is monitored and adjusted to ensure the quality of the printed product meets the standard of the sample sheet 3.4. Drying systems are monitored and adjusted to ensure the quality of the printed product meets the standard of the approved proof
4. Maintain production process	4.1. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 4.2. In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure the

ELEMENT	PERFORMANCE CRITERIA
	<p>quality of the product meets the standard of the approved proof</p> <p>4.3. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.4. Manual and/or automatic control is used according to specification</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. <i>Ink</i> performance, colour, register and embellishment of print are monitored and adjusted throughout production run</p> <p>4.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.8. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.9. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>4.10. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Problem in relief machine operation is identified and reported according to enterprise procedures</p> <p>5.2. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.3. Adjustments or corrections are carried out according to specified procedures</p> <p>5.4. Relief machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>6.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.5. Machine faults requiring repair are identified and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>reported to designated person according to enterprise procedures</p> <p>6.6. Repair/adjustment is verified prior to resumption of operations</p>
<p>7. Clean and wash up printing machine at end of print run</p>	<p>7.1. Cylinders, plate and roller surfaces are cleaned ready for next run</p> <p>7.2. Inking system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements</p> <p>7.3. <i>In-line</i> printing/converting/binding/finishing units are cleaned ready for next run</p> <p>7.4. Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>7.5. Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run</p> <p>7.6. Production records or other documentation are accurately completed where required by enterprise procedures</p> <p>7.7.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising skills for collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising skills for providing information about time and material requirements for production scheduling
- teamwork skills for maintaining the production process in association with others
- numeracy skills for calculating substrate requirements, plate position and pressures
- problem-solving skills for recognising proofing faults and calculating adjustments necessary to meet job specifications
- technical skills for monitoring equipment and computerised production records

Required knowledge

- reel transportation and web control:
 - major OHS concerns when setting up the reel transportation system
 - causes of reel to wandering
 - causes of the web to break at the unwind unit
 - print faults resulting from the reel being run out of centre
 - possible faults in the unwind section that could cause a web break
- sheet transportation and transfer at the feeder:
 - major OHS concerns when setting up the sheet transportation system
 - result of worn suckers at the feeder suction head
 - type of two-sheet detection on the machine
 - amount of movement the sheet should have when being registered by the side lay
 - causes of mis-register of the sheet feeder
 - visible signs of the sheet being registered in the feeder
 - gripper malfunction of sheet control and transfer
 - sheet transfer mechanisms require adjusting
 - causes of the feeder stack to becoming uneven
 - result of the feeder stack not being loaded level
 - reel delivery for rewinding and sheeting

REQUIRED SKILLS AND KNOWLEDGE

- OHS risks associated with rewinding and sheeting
- safety feature is in the delivery system if the web jams up
- reasons for sheet cut-off wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- sheet delivery:
 - effect machine speed has on sheet delivery
 - advantage of spraying moving sheets with anti set-off powder in the delivery
 - items in the delivery that could cause marking of the printed image
 - remedial steps necessary to eliminate marking of the printed image
 - faults that could result from incorrectly set grippers in the transfer section of a machine
 - devices that need to be adjusted to maintain sheet control in the delivery
- printing unit:
 - result if the plate lifts at the grip edge during a print run
 - build-up of ink on the impression cylinder affecting the printed product
 - causes of the ink leaking back in the duct
 - problem of paper surface picking being rectified
 - causes of diminished impression during the print run
 - causes of the plate surface prematurely wearing during production
- drying unit:
 - eating or drinking near the machine when using UV inks
 - link between driers and set-off and marking
 - what causes UV ink to dry
 - causes of the substrate blistering
 - effect of incorrect drying temperature on the finished product
- in-line processes:
 - major OHS concerns when operating cutting devices
 - checking the consistency of the cutting and creasing unit
 - result of excessive pressure on the slitters
 - benefit of die cutting using a rotary die
 - advantages of using a perforation wheel to perforate
- maintaining production process:
 - affect of inadequate communication within the work team on a relief printing machine
 - safety features within the organisation and in maintaining effective production
 - ramifications if machine guards are removed and/or micro switches are disconnected on a machine
 - legal responsibility for the removal of machine guards and/or disconnection of micro switches

REQUIRED SKILLS AND KNOWLEDGE

- measurement other than optimum solid ink density that can be measured to assess print quality
- most accurate method of checking register during a production run
- actions to take when production problems are anticipated
- actions to take to eliminate further processing of unacceptable printed product
- affect on a stack of paper if the relative humidity is increased in the press room
- procedure to care for a newly delivered skid of paper to the press room
- reasons for sorting waste
- advantage of keeping reusable waste
- client liaison:
 - industry standards to be applied to enhance effective communication with the client
 - necessary procedures that the client should follow to 'OK' a printed product
- relief printing machine operating problems:
 - when it is necessary to call service personnel to correct a machine problem
 - what enterprise procedures are in place to report any machine operating problems
- shutdown procedures:
 - result if correct shutdown procedures were not followed
 - correct shutdown procedures to be conducted with fellow workers
 - advantages that result from proper labelling and storage of excess inks and materials
 - importance if printed product being clearly labelled prior to removal from the press room
- cleaning and washing up the printing unit:
 - OHS concerns to be observed when handling ink
 - safety precautions to be observed when cleaning the printing cylinders
 - cleaning and washing up techniques for the printing unit prior to the next print run
 - procedures for storing plates so as to minimise damage
- cleaning feed, transportation, delivery and in-line sections:
 - OHS precautions to be observed when cleaning these sections of the machine
 - maintaining a clean substrate handling section of the machine
- completing production records:
 - completed records used in the final analysis of the job
 - benefits of comprehensive records when considering the production of future jobs
- information sources:
 - machine manuals, safety and other documentation relevant to the production of

REQUIRED SKILLS AND KNOWLEDGE

complex relief printed products

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| <ul style="list-style-type: none">• other sources of available information |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • operate a platen, cylinder or rotary printing machine ensuring an efficient non-routine production flow that maintains product quality standards • anticipate and rectify any production problems with minimum downtime • correctly shutdown and clean machine according to OHS guidelines • use computerised control, monitoring and data entry systems if available and appropriate • find and use information relevant to the task from a variety of information sources • manipulate embellishment tools and operations • monitor production output and make necessary adjustments to maintain print quality on a relief printing machine whilst producing a complex print on two occasions (if possible using different substrates and if possible including at least two in-line processes) according to job specifications and enterprise procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to relevant facilities and equipment, such as platen, cylinder or rotary printing machines • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate when producing a complex relief printed product.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR451C Set up for complex relief printing. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Substrate</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of: <ul style="list-style-type: none"> • paper • pressure sensitive material • board • plastics • related films • metal.
<i>Machine</i> may include:	<ul style="list-style-type: none"> • range of platen • cylinder and rotary machines with manual, semi-automated, fully automated or computerised process control.
<i>Handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel, and large and small sheet handling systems.
<i>Ink</i> may include:	<ul style="list-style-type: none"> • range of inks commonly used in 3 or more colour printing, including: <ul style="list-style-type: none"> • standard • special colours.
<i>In-line</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations, such as perforating, numbering, date coding, slitting top cutting or one up die cutting, foiling and embossing

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR411C Mount and demount flexographic plates for complex printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to mount and demount flexographic plates for non-routine printing.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare and mount flexographic plates and plate cylinders for complex printing. Plates and cylinders are checked for registration.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Prior inspections are completed and signed off
2. Prepare flexographic plates	2.1. Plate height is measured according to non-routine job specifications 2.2. Plates are trimmed and prepared according to mounting system requirements 2.3. Mounting adhesive is selected to achieve correct PCD (Pitch Circle Diameter) of specified plate cylinders and gears
3. Prepare plate cylinder	3.1. Plate cylinders/seamless sleeves are selected, cleaned and prepared and correct gears are mounted OR 3.2. Sleeves and correct gears on mandrels are selected, cleaned, prepared and mounted to meet non-routine job specifications 3.3. TIR (Total Indicated Runout) is checked to be within specified tolerances on plate cylinders 3.4. Selected mounting adhesive is applied to plate cylinders
4. Mount and demount flexographic plates on mounting/proofing machine	4.1. Plates are prepared and mounted on cylinders using pin mounts or microdot systems or sleeves according to chart number/print direction OR 4.2. Plate mounting sheet is prepared to meet non-routine job specifications AND 4.3. Plates are mounted to position on plate mounting sheet or camera targets AND 4.4. Plate mounting sheet is installed and tensioned onto plate cylinder to specified chart number/print direction 4.5. Correct cleaning solution and brush are used to clean plate 4.6. Correct tools are used to demount plate without damaging plate 4.7. Plate is visually checked for damage 4.8. Plate is prepared for storage and then stored correctly according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job brief and advising client (internal or external) about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating production unit to ensure efficient operation
- mathematical ideas and techniques by calculating plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- the need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- the person you would discuss any production problems
- OHS concerns that are there when mounting and demounting plates
- the most common cause of photopolymer plates crazing on the image side
- the importance of the resiliency of the printing plate
- the main advantage of using thin photopolymer plates in process printing
- faults that may be detected on new plates
- type of solvents that should be used on photopolymer plates
- the benefits of optical mounting
- the purpose of binding plates after mounting
- possible print faults that could be eliminated by using cushion mount
- the result of air being trapped under plates
- selecting the correct cushion mount for a particular job
- eliminating low spots
- minimising press bounce in jobs that are mounted more than one across
- some possible causes of print slur
- preventing or minimise plates lifting

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• methods used to make registering the job easier on the press• machine manuals, safety and other documentation that are relevant to this task and where are they kept• information that is included in these documents• other sources of information that are available |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare and mount flexographic plates and plate cylinders for complex printing. Plates meet the job specifications and registration is checked if necessary • demonstrate an ability to find and use information relevant to the task from a variety of information sources • mount and demount plates and install in a flexographic printing machine for a variety of different complex print jobs on TWO occasions according to job specifications and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • 4 or more colour flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR413C Set up for complex flexographic printing • ICPPR414C Produce complex flexographic printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Jobs</i> may include:	<ul style="list-style-type: none"> • surface and reverse (lamination) prints.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> • non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>Types of plates</i> may include:	<ul style="list-style-type: none"> • range of plate types and thicknesses used in flexographic printing.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of viscosity controls, densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • range of stack, in-line and central impression flexographic printing machines with manual, semi-automated or fully automated process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> • 4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Tape</i> may include:	<ul style="list-style-type: none"> • tape characteristics, densities.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR413C Set up for complex flexographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up machines for non-routine flexographic printing.
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Application of the Unit

Application of the unit	<p>This unit requires the individual to set up flexographic printing machines either wide or narrow web. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.</p> <p>Mounting and demounting plates is covered in ICPPR411C Mount and demount flexographic plates for complex printing.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked 1.4. Proofed job is checked for conformance with job specifications
2. Set up reel transportation and delivery system on web-fed machine	2.1. Reels are checked for treatment levels, coatings and printing side and age of product 2.2. Unwind reels are secured on reel shaft 2.3. Reels are correctly positioned on unwind stand 2.4. Press is webbed for surface or reverse or perfecting printing according to <i>non-routine</i> job specifications 2.5. Edge guide is centred and set to non-routine job specifications 2.6. Unwind tension is set to suit <i>substrate</i> 2.7. Rewind tension is set to suit substrate 2.8. Rewind tension is set to suit substrate 2.9. PIV (Positively Infinitely Variable) drive is set for appropriate tensioning of substrate
3. Select and prepare inks and solvents	3.1. <i>Inks</i> and solvents are selected according to job specifications and end-user requirements 3.2. Quality and suitability of inks and solvents are checked and appropriate action is taken 3.3. Inks and solvents are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 3.4. Correct colour and weight/volume of ink are mixed and viscosities checked and modified according to the press requirements and non-routine job specifications 3.5. Ink formula and approved colour draw downs are appropriately recorded 3.6. Inks and solvents are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions and the relevant hazardous liquids storage regulations
4. Set up machine for	4.1. Flexographic plate cylinders are installed and

ELEMENT	PERFORMANCE CRITERIA
complex flexographic printing	<p>register adjustments centred OR</p> <p>4.2. Sleeves are installed in press and register adjustments made OR</p> <p>4.3. Plate mounting sheets are mounted on cylinders in press and register adjustments made</p> <p>4.4. Plate cylinders are gauged up or pre-set to impression</p> <p>4.5. Anilox rollers are selected to suit individual colour and plate reproduction requirements for each unit</p> <p>4.6. Appropriate ink metering system is selected for each unit</p> <p>4.7. Inking system is set up and roller nips/blades are set correctly</p> <p>4.8. Ink circulation is maintained at correct level and flow for <i>machine</i></p> <p>4.9. Viscosities are adjusted according to job specifications</p> <p>4.10. Air volume and drier temperatures curing units are selected to suit inks, <i>substrate</i>, solvents and according to job specifications</p> <p>4.11. Air volume is adjusted between colours to maximise drying and minimise air overspill</p>
5. Set up in-line units for basic process(es)	<p>5.1. Minor <i>in-line</i> printing/converting/binding units are set up for basic process(es) and adjusted according to machine requirements and job specifications</p> <p>5.2. Assistance is given in set up of major in-line printing/converting/binding units</p>
6. Conduct proof run	<p>6.1. Material to be used for proof is organised correctly</p> <p>6.2. Press is set up and operated according to OHS guidelines</p> <p>6.3. Print impressions are set to minimum kiss impression</p> <p>6.4. Web tensions are correctly set at unwind, between stations and rewind</p> <p>6.5. Drying is checked as sufficient to key ink to the substrate</p> <p>6.6. The viscosities are adjusted to obtain the correct colour at proof speed and checked against colour matching system</p> <p>6.7. The substrate is checked against job specifications</p>
7. Organise proof	7.1. Proof is visually inspected and/or tested or laboratory

ELEMENT	PERFORMANCE CRITERIA
inspection and/or testing	<p>testing is organised according to enterprise procedures</p> <p>7.2. Production does not commence without client approval or authority where appropriate</p>
8. Readjust settings to production speed	<p>8.1. Production speed print results are interpreted and appropriate adjustments are made to press, ink and substrate settings</p> <p>8.2. Adjustments are made according to product specifications and press performance</p> <p>8.3. Web is spliced at production speed and further samples are obtained for quality inspections at appropriate intervals</p> <p>8.4. Press settings are documented and samples are retained</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and advising the client (internal or external) about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- interpreting complex job specifications
- production problems that could eventuate by not reading and understanding the job specifications
- mounting and proofing flexographic plates
- OHS factors needing to be considered when mounting and proofing flexographic plates
- most common cause of photopolymer plates crazing on the image side
- resiliency of the printing plate
- main advantage of using thin photopolymer plates in process printing
- faults that may be detected on new plates
- types of solvents that should be used on photopolymer plates
- benefits of optical mounting
- purpose of binding plates after mounting
- possible print faults that could be eliminated by using cushion mount
- installation of printing cylinders or sleeves
- OHS factors that need to be considered when installing printing cylinders or sleeves
- precautions that should be undertaken to ensure that the plates and cylinders or

REQUIRED SKILLS AND KNOWLEDGE

- sleeves are not damaged during installation
- checking to ensure plates and cylinders or sleeves have been installed correctly
- reel transportation system
- OHS precautions to be observed when webbing up the machine
- position of the reel
- how the substrate pulled into the machine
- result of insufficient unwind tension
- result of excessive unwind tens
- function of the "Dancer" roller on a web machine
- function of the PIV unit
- adjustments to the PIV
- function of the lay-on roller
- what will be the effect of excessive lay-on roller pressure
- what can happen if the web is not spliced correctly
- how does the particular web viewing device work
- delivery system
- OHS precautions that must be observed when setting up the delivery
- how web controlled in the rewind unit
- result of incorrect rewind tension
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- function the use of air blast plays in the delivery of sheets
- preparing inks and additives
- OHS precautions that must be observed when preparing inks and additives
- necessary checks to test an ink's suitability for the printing process
- special end-use requirements that may be necessary
- main functions of a pigmented extender used in flexographic printing
- purpose of plasticisers added to flexographic inks
- additives used in flexographic inks
- range in seconds for Zahn cup measurements
- effect foaming has in a Zahn cup when measuring the ink viscosity
- recommended pH range when printing with aqueous inks
- precautions to observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions are that relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed ink
- complex machine set up
- OHS factors that need to be considered when setting up the machine
- advantage of centring all machine controls
- checks that should be made on cylinders and gears

REQUIRED SKILLS AND KNOWLEDGE

- checks that should be performed prior to cylinder or sleeve installation
- angle that should the chamber blades be set at
- main advantage of gauging up and dry register prior to printing a job
- cell count of the anilox roller is used when printing solids
- water treatment additives used in a central impression drum and chill roller coolant system
- advantages of laser engraved ceramic anilox rollers
- things relating to the anilox roller that a roller scope will measure
- reasons for anilox wear
- type of job would be printed using a hexagonal cell configuration
- recommended web temperature when printing polypropylene film
- method of drying used when printing on polythene by the flexographic process
- factors affecting the drying rate of liquid inks
- factors affecting the drying of aqueous inks
- operating range of UV lamps
- in-line processes
- OHS precaution to be observed when slitting on the machine
- how is a cold seal formed
- reasons for a printed product to be punched
- setting hole punching in relation to repeat length
- result of excessive pressure on the slitters
- problem solving proofing and adjustment
- why is it necessary to graduate the drying speeds of each progressive colour, so that first-down colours dry faster the subsequent colours
- why is it that in flexographic printing as the press speed increases so does the colour strength
- decrease in web tension
- increasing rewind tension after the roll has been partially rewound
- major cause of a telescopic roll
- print characteristics related to excessive printing pressure
- causes of picking when printing multicoloured work
- print faults from using an over-reduced ink
- problems that can cause lateral streaks showing up in uneven printing
- causes of moire patterns when printing by the flexographic process
- result of air being trapped under mounted plates
- instrument used to identify retained solvent trapped in the print
- purpose of taking Dyne readings
- purpose of the crinkle test when testing an ink
- result if an excessive final drying temperature was used when printing polypropylene film
- property of ink that can be adjusted to reduce dot gain

REQUIRED SKILLS AND KNOWLEDGE

- when checking the viscosity for ink whilst using ink pumps, why should the ink returning from the ink fountain not be used
- problems resulting from the excessive use of slow solvents
- why do laminating inks once printed appear dull and easy to scratch
- result of excessive print area tension
- problems that the printer may associate with cold seals
- machine manuals, safety and other documentation are relevant to this task and where are they kept and information is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up flexographic printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a flexographic printing machine for a complex job on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a wide or narrow flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPPR314C Produce complex flexographic printed product• ICPPR411C Mount and demount flexographic plates for complex printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel delivery systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 4 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Design</i> may include:	<ul style="list-style-type: none"> 4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR414C Produce specialised flexographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce specialised flexographic printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a reel-fed flexographic press ensuring an efficient production flow for specialised jobs that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised flexographic printing process	<p>1.1. Flexographic plate and plate cylinder or sleeve condition is monitored, evaluated and adjusted to ensure the quality of printed product meets the standard of the approved proof</p> <p>1.2. Flexographic impression roller condition is monitored and evaluated to ensure the quality of printed product meets the standard of approved proof</p> <p>1.3. Flexographic inking system and doctor blade condition is monitored, evaluated and adjusted to ensure quality of <i>specialised</i> printed product meets the standard of approved proof</p> <p>1.4. Drying systems are monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of approved proof</p>
2. Maintain specialised production process	<p>2.1. Production process is maintained in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>2.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>2.3. Manual and/or automatic control is used according to job specifications</p> <p>2.4. Performance is monitored, adjusted and verified using the process control system according to enterprise procedures</p> <p>2.5. <i>Ink</i> performance, colour, register and position of print are monitored, evaluated and adjusted throughout production run</p>
3. Tune and adjust machinery	<p>3.1. Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's specifications</p> <p>3.2. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery</p> <p>3.3. A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</p> <p>3.4. Options and recommendations are documented for future reference according to enterprise procedures</p> <p>3.5. Instruction on new practices is provided to machine</p>

ELEMENT	PERFORMANCE CRITERIA
	operator or finisher, if required
4. Troubleshoot machinery and material problems	<p>4.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>4.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>4.3. Changes are monitored to confirm improvement to production efficiency</p> <p>4.4. Ongoing problems are reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Reels and cores are removed from press</p> <p>5.4. Unused ink is drained back to containers and correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.6. All product is removed from operating area</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients
- collecting, analysing and organising information by identifying and recording specialised production practices
- planning and organising activities by adjusting the production process to achieve specialised printing requirements
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by adjusting machinery settings to determine the required tolerances to meet specialised requirements
- use of technology by using machinery to produce specialised flexographic printed product

Required knowledge

- causes of reel wander
- causes of the web breaking at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- print fault that would result from the reel being run out of centre
- possible faults in the unwind section could that cause a web break
- OHS risks associated with rewinding and sheeting
- safety feature that is in the delivery system if the web jams up
- causes of sheet cut-off wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- result if the plate lifts on the leading edged during a print run
- effect on printed product of a build-up of ink on the impression cylinder
- cause of ink foaming in the ink tray
- effect of too much reducer in the ink
- action that reduces wear of the doctor blade
- need for all solvents to be removed from the final ink film
- link between driers and set off and marking
- causes of UV ink drying
- substrate to distortion
- effect in the chillers if the drying temperature was too low

REQUIRED SKILLS AND KNOWLEDGE

- effect of incorrect drying temperature on the finished product
- effect of eating or drinking near the machine when using UV inks?
- need to frequently examine the in-line components of the job
- consistency checks to be made of the punching unit checked
- result of excessive pressure on the slitters
- safety features within the organisation that aid in maintaining effective production
- legally responsibility for the removal of machine guards and/or disconnection of micro switches
- effect of inadequate communication within the work team on a flexographic printing machine
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- other measurement besides optimum solid ink density that can be measured to assess print quality
- most accurate method of checking register during a production run
- need to take immediate action when production problems are anticipated
- action that is taken to eliminate further processing of unacceptable printed product
- result to the substrate if the relative humidity is increased in the press room
- procedure to care for a newly delivered substrate to the press room
- waste sorting
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- need to call service personnel to correct a machine problem
- enterprise procedures that are in place to report any machine operating problems
- result if correct shutdown procedures were not followed
- correct shutdown procedures conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- clear labelling of printed product prior to removal from the press room
- further operations that are required for printed reels upon removal from the printing machine
- storing of the printed job after removal from the printing machine
- use of completed records the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a reel-fed flexographic press ensuring an efficient 3 or more colour production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a flexographic machine whilst producing a complex print on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR413C Set up for complex flexographic printing
- ICPPR314C Produce complex flexographic printed product.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 4 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> 4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

RANGE STATEMENT

<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel delivery systems.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR421C Set up for complex gravure printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for non-routine gravure printing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up gravure printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reels	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out according to non-routine job specifications 2.3. Web-control system is set up and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Printed web viewing devices are set up and adjusted according to job specifications 2.6. The folder and sheeter are set up and adjusted according to job specifications 2.7. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Select and prepare inks and additives	3.1. Inks , dyes or additives are selected according to job specifications and end-user requirements 3.2. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken 3.3. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 3.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications 3.5. Formulation of the ink, colour match and the approved colour are appropriately recorded 3.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
4. Set up machine for complex gravure printing	4.1. Gravure cylinders are selected, installed, set up and adjusted according to job specifications 4.2. Impression roller is set up and adjusted according to

ELEMENT	PERFORMANCE CRITERIA
	<p>job specifications</p> <p>4.3. Inking system/doctor blade is set up and adjusted according to the gravure process and job specifications</p> <p>4.4. Drying system is set up and adjusted according to job specifications</p>
5. Conduct proof run	<p>5.1. Material to be used for proof is organised correctly</p> <p>5.2. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>5.3. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>5.4. Production does not commence without client OK or authority where appropriate</p> <p>5.5. Results are interpreted and adjustments are carried out according to product and machine specifications to determine adjustment requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating cylinder position, pressures and substrate requirements
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- person / people any production problems should be discussed with
- OHS precaution that must be observed when installing printing cylinders on the machine
- determining the optimum print sequence
- visual aid on the cylinder that identifies the colour of ink to be used
- precautions that are taken to ensure that the cylinders are not damaged during installation
- OHS precautions that must be observed when webbing up the machine
- determining the position of the reel
- effect if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- effect if the web is not spliced correctly
- workings of the particular web viewing device
- principle of ESA roller operation on the gravure printing machine
- type of substrate that should be used on the ESA roller

REQUIRED SKILLS AND KNOWLEDGE

- OHS precautions that must be observed when setting up the delivery
- controlling of the web in the rewind unit
- result of incorrect rewind tension
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- problems that could be attributed to a blunt knife when sheeting
- use of air blast play in the delivery of sheets
- OHS precautions that must be observed when preparing inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- additives used in gravure inks
- range in seconds for Zahn cup measurements
- effect foaming has in a Zahn cup when measuring the ink viscosity
- bringing pigmented ink to operating temperature before correcting the viscosity
- essential checks to be made
- advantage of using automatic viscosity controllers
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- advantage of using automatic viscosity controllers
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- OHS factors that need to be considered when setting up the machine
- function of chill rollers on a machine
- main advantage of gauging up and dry register prior to printing a job
- result of excess printing pressure
- determining the pressure to be applied to the doctor blade
- print faults that could be caused by excessive overspill of air from the inter-colour drier
- recommended air ratio for efficient inter-colour drying
- advantages of using high velocity air in the drying system
- OHS precautions that must be observed when slitting on the machine
- pre-heat web temperature required for lamination
- reasons for a printed product to be punched
- considerations when setting hole punching in relation to repeat length
- purpose of the dwell when cutting and creasing in-line
- controlling the ratio of print to in-line speed controlled

REQUIRED SKILLS AND KNOWLEDGE

- result of excessive pressure on the slitters
- cause of the doctor blade to wear on a gravure printing unit
- reducing the wear of the doctor blade
- determining the optimum make ready speed for the job
- communicating the steps involved in make ready to other team members
- need to grade the drying speeds of each progressive colour, so that first-down colours dry faster the subsequent colours
- causes of a decrease in web tension
- result of increasing rewind tension after the roll has been partially rewound
- major cause of a telescopic roll
- testing metallised film to find out which is the correct side on which to print
- measuring the metallised surface for coating thickness
- effect of annealing on aluminium foil
- purpose of using thermal imaging face stocks
- metallising substrates
- client requirements for bar codes
- print characteristics that are related to excessive printing pressure
- causes of picking when printing multicoloured work
- print faults resulting from using an over-reduced ink
- causes of moire patterns when printing by the gravure process
- instrument used to identify retained solvent trapped in the print
- purpose of taking Dyne readings
- purpose of the crinkle test when testing an ink
- print faults resulting from a worn doctor blade
- use of ink returning from the ink fountain when checking the viscosity of ink whilst using ink pumps
- problems that result from the excessive use of slow solvents
- reason why laminating inks once printed appear dull and easy to scratch
- result of excessive print area tension
- problems which the printer may associate with cold seals
- responsibility for the final say in the "OK" of the job
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up gravure printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a gravure printing machine for a complex job on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to manufacturer's specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • gravure printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPPR422C Produce complex gravure printed product.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, board, plastics and related films, or metal.

RANGE STATEMENT

<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel handling systems.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR422C Produce specialised gravure printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce specialised gravure printed product that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a gravure press ensuring an efficient production flow for specialised jobs that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised gravure printing process	<p>1.1. Gravure cylinder condition is monitored, evaluated and adjusted to ensure the quality of printed product meets the standard of the sample sheet</p> <p>1.2. Gravure impression roller condition is monitored, evaluated and maintained to ensure that the quality of the <i>specialised</i> printed product meets the standard of the sample sheet</p> <p>1.3. Gravure inking system and doctor blade are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the standard of sample sheet</p> <p>1.4. Drying systems are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the standard of approved proof</p> <p>1.5. In-line printing/convertng/binding/finishing processes are monitored, evaluated and adjusted to ensure quality of specialised product meets the standard of the approved proof</p>
2. Maintain specialised production process	<p>2.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>2.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>2.3. Manual and/or automatic control is used according to job specifications</p> <p>2.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>2.5. <i>Ink</i> performance, colour, register and position of print are monitored, evaluated and adjusted throughout production run</p> <p>2.6. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>2.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>2.8. Waste is sorted according to enterprise procedures</p>
3. Tune and adjust machinery	<p>3.1. Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>specifications</p> <p>3.2. Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's specifications</p> <p>3.3. A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</p> <p>3.4. Options and recommendations are documented for future reference according to enterprise procedures</p> <p>3.5. Instruction on new practices is provided to machine operator or finisher, if required</p>
4. Troubleshoot machinery and material problems	<p>4.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>4.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>4.3. Changes are monitored to confirm improvement to production efficiency</p> <p>4.4. Ongoing problems are reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Unused ink is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5. All product is removed from operating area</p> <p>5.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.7. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- reel to wander causes
- web break causes at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- a Print fault that would result from the reel being run out of centre
- possible faults in the unwind section that could cause a web break
- OHS risks associated with rewinding and sheeting
- safety feature that is in the delivery system if the web jams up
- sheet cut-off wandering
- effect of poorly adjusted nip rollers when rewinding and sheeting
- effect of a build-up of ink on the impression cylinder on the printed product
- cause of the ink to foam in the ink tray
- effect of too much reducer in the ink
- an action that reduces wear of the doctor blade
- need for all solvents be removed from the final ink film
- link between driers and set off and marking
- cause substrate distortion
- effect in the chillers if the drying temperature was too low
- effect of incorrect drying temperature on the finished product
- effect of inadequate communication within the work team on a gravure printing machine

REQUIRED SKILLS AND KNOWLEDGE

- safety features within the organisation that aid in maintaining effective production
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- legally responsibility for the removal of machine guards and/or disconnection of micro switches
- most accurate method of checking register during a production run
- need to take immediate action when production problems are anticipated
- action that is taken to eliminate further processing of unacceptable printed product
- result to the substrate if the relative humidity is increased in the press room
- procedure to care for a newly delivered substrate to the press room
- waste sorting
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- need to call service personnel to correct a machine problem
- enterprise procedures that are in place to report any machine operating problems
- result if correct shutdown procedures were not followed
- need for correct shutdown procedures to be conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- clear labelling of the printed product prior to removal from the press room
- further operations that are required for printed reels upon removal from the printing machine
- storing the printed job after removal from the printing machine
- use of completed records in the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a gravure press ensuring an efficient specialised production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a gravure machine whilst producing a complex print on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment gravure printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR421C Set up for complex gravure printing
- ICPPR322C Produce complex gravure printed product.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive materials, board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR431C Set up for complex lithographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for complex lithographic printing.
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Application of the Unit

Application of the unit	This unit requires the individual to evaluate set up options and then set up either wide or narrow reel or sheet-fed lithographic printing machines for non-routine print jobs. The individual will conduct proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm complex job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Non-routine set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels set up options are analysed and set up is completed and adjusted according to job specifications 2.2. Webbing procedures are carried out to meet non-routine job specifications 2.3. Web-control system is set up options are analysed and set up is completed and adjusted according to job specifications 2.4. Reels are spliced/joined according to job specifications 2.5. Printed web viewing devices are set up and adjusted according to job specifications 2.6. The folder and sheeter are set up and adjusted according to job specifications 2.7. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery sections are set up options are analysed and set up is completed and adjusted to non-routine suit job specifications 3.2. Sheet pick-up, transportation, control and transfer systems are set up and adjusted according to job specifications 3.3. Substrate is removed from process according to job instructions 3.4. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Select and prepare inks and additives	4.1. Colour sequence for the job is considered and confirmed 4.2. Inks , dyes or additives are selected according to non-routine job specifications and end-user requirements 4.3. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken 4.4. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's

ELEMENT	PERFORMANCE CRITERIA
	<p>instructions with suitable precautions to minimise waste</p> <p>4.5. Correct colour and weight/volume of ink is mixed and prepared to match the requirements of the job specification and the non-routine printing process</p> <p>4.6. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded</p> <p>4.7. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/ supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
5. Set up machine for complex lithographic printing	<p>5.1. Plate cylinder is set up and adjusted according to job specifications</p> <p>5.2. Plate cylinder is set up and adjusted according to job specifications</p> <p>5.3. Plates are correctly mounted according to specification and in a safe manner</p> <p>5.4. Blanket and blanket cylinder are set up and adjusted according to job specifications</p> <p>5.5. Impression cylinder is set up and adjusted according to job specifications</p> <p>5.6. Inking system is set up and adjusted according to the lithographic process and job specifications</p> <p>5.7. Dampening system is set up and adjusted according to job specifications</p> <p>5.8. Drying system is set up and adjusted according to job specifications</p>
6. Conduct proof run	<p>6.1. Material to be used for proof is organised correctly</p> <p>6.2. <i>Machine</i> is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>6.3. Production does not commence without client OK or authority where appropriate</p> <p>6.4. Results are interpreted and adjustments are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- with whom would you discuss any production problems?
- problem that can result from the plate cylinder not being cleaned prior to plate fitting
- effect or over tensioning of the plate during fitting
- faults that could result from a plate being under tensioned
- need for accurate plate bending necessary on a web-fed machine
- considerations that would have to be made when deciding the colour sequence
- visual aid on the plate that identifies the colour of ink to be used
- OHS precaution that must be observed when webbing up the machine
- determining the position of the reel
- effect if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- determining the position of the bustle wheels
- effect if the web is not spliced correctly
- operation of the particular web viewing device

REQUIRED SKILLS AND KNOWLEDGE

- OHS factors that need to be considered when setting up the sheet transportation and delivery systems
- cause of more than one sheet to be picked up in the feeder
- need for accurate feeder set up
- determining the position of the sheet prior to being transferred to the printing unit
- determining which front lays to use
- type of substrate that would require additional front lays to be engaged
- need for additional front lays when printing this type of substrate
- OHS precaution that must be observed when setting up the delivery
- controlling the web in the rewind unit
- function of a slitter on a web machine
- cause of the web to jam up in the folder
- need to disengage the folder if sheeting
- problems that could be attributed to a blunt knife when sheeting
- a safety feature that is in the delivery system if the web jams up
- fold that is always made with the grain of the web
- type of folder that folds the web in half in the direction of the web grain
- remedial steps that can be taken if there is a possibility of the ink marking in the folder
- main reason for having a silicone applicator on a web machine
- OHS precaution that must be observed when removing sheets from the delivery
- cause of sheets being delivered incorrectly
- adjustments that would be necessary if changing from lightweight to heavyweight stocks
- sheet release into the delivery
- problems that result from the excessive use of anti set off spray powder
- cause of printed sheets to set off in the delivery
- possibility of reducing set off in the delivery
- a fault that may be created if there is excess vacuum on the slow-down wheels
- OHS concerns that are related to the preparation of inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- need to mix an additive into the ink
- using a spectrophotometer to assess the colour of an ink
- formula for calculating the correct quantity of lithographic ink
- a print fault that will occur if excessive driers are mixed into the ink
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- OHS factors that need to be considered when setting up the machine

REQUIRED SKILLS AND KNOWLEDGE

- checks that should be made on the plate prior to fitting
- required plate packing
- normal printing pressure that is required between plate and blanket
- determining the correct printing pressure between blanket and stock
- ideal blanket surface condition
- achieving the correct blanket tension when fitting a new blanket
- print faults that can occur if the impression cylinder is not maintained
- ordereccentric or concentric roller adjustments should be made
- width of the contact stripe between two rollers when setting the rollers
- determining the ink duct setting
- ideal ink duct sweep setting
- recommended degrees shore hardness for bare back and conventional dampeners
- conductivity of the fountain solution
- need to constantly check the conductivity of the fountain solution
- changing the amount of fountain solution across the plate surface
- need to adjust the fountain solution laterally
- effect of engaging the perfecting unit on the run
- main reason for blistering on a heatset machine
- substance that the oven evaporate from the ink
- function of chill rollers on a web machine
- OHS precaution that must be observed when slitting on the machine
- operations that can be performed with in-line units
- machine position that you should engage in-line processing units
- precautions that are necessary when setting up in-line processing units
- reasons for a printed product to be punched
- considerations when setting hole punching in relation to repeat length
- result of excessive pressure on the slitters
- operation of the true inch function fitted to some machines
- problems that may cause the machine to keep stopping
- checks that are necessary prior to engaging the impression
- checks that are performed when running the machine
- effect that the position of certain guards have on the operation of the machine
- communication of the steps involved in operating the machine to other team members
- aids that are available for the testing of the machine proof
- taking tests that are necessary for this job
- function of a polarisation filter in a densitometer
- ideal conditions for inspecting the proof
- need to use visual aids on the printed sheets
- acceptable wet trap value range for lithographic inks

REQUIRED SKILLS AND KNOWLEDGE

- an indicator of optimum solid ink density in the absence of a proof
- result of low solid ink density and excessive dot gain
- methods that are available to check and adjust ink colour and consistency
- adjustments that may have caused mis-register
- adjustments that are made to position the image laterally
- adjustments that are made to position the image circumferentially
- adjustments that are made to position the image diagonally
- effect of changing the colour sequence on the wet trap value
- procedure to lengthen the print length on this type of press
- procedure to shorten the print length on this type of press
- difference between mechanical and optical dot gain
- cause excessive mechanical dot gain
- responsibility for the final say in the "OK" of the job
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up either wide or narrow reel or sheet-fed lithographic printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a lithographic printing machine for a complex job on TWO occasions (if possible using different substrates and sheet sizes if sheet-fed and if possible including at least TWO in-line processes) according to job and manufacturer's specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • lithographic printing machine with in-line units.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none">• ICPPR332C Produce complex lithographic printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> wide range of inks commonly used in printing, including standard and special colours, if required.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of single sheet, stream-fed or reel-fed printing machines with manual, semi-automated, fully automated or computerised process control. Includes machines with digitally imaged plates.
<i>Design</i> may include:	<ul style="list-style-type: none"> complex graphics and text. Critical "tight" registration, fit and position, registration for quality print requirements.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Specialised</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR432C Produce specialised lithographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce specialised lithographic printed product that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a lithographic press ensuring an efficient specialised production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised lithographic printing process	<p>1.1. Lithographic plate and plate cylinder conditions are monitored, evaluated and adjusted to ensure the quality of the <i>specialised</i> printed product meets the standard of the sample sheet</p> <p>1.2. Lithographic blanket and blanket cylinder conditions are monitored, evaluated and adjusted to ensure the quality of the specialised printed product meets the standard of sample sheet</p> <p>1.3. Lithographic impression cylinder condition is monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of sample sheet</p> <p>1.4. Lithographic inking system is checked and maintained to ensure quality of the specialised printed product meets the standard of sample sheet</p> <p>1.5. Lithographic dampening system condition is monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of sample sheet</p> <p>1.6. Set off/marketing prevention and drying system is monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of sample sheet</p> <p>1.7. Drying systems are monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of approved proof</p>
2. Maintain specialised production process	<p>2.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>2.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>2.3. Manual and/or automatic control is used according to job specifications</p> <p>2.4. Performance is monitored, evaluated and verified using the process control system according to enterprise procedures</p> <p>2.5. <i>Ink</i> performance, colour, register and position of print are monitored, evaluated and adjusted throughout production run</p> <p>2.6. Production difficulties are anticipated and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>preventive action is taken to prevent occurrence by timely intervention</p> <p>2.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>2.8. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>2.9. Waste is sorted according to enterprise procedures</p>
3. Tune and adjust machinery	<p>3.1. Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's specifications</p> <p>3.2. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery</p> <p>3.3. A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</p> <p>3.4. Options and recommendations are documented for future reference according to enterprise procedures</p> <p>3.5. Instruction on new practices is provided to machine operator or finisher, if required</p>
4. Troubleshoot machinery and material problems	<p>4.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>4.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>4.3. Changes are monitored to confirm improvement to production efficiency</p> <p>4.4. Ongoing problems are reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Plate cylinder is set up and adjusted according to job specifications</p> <p>5.3. Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures</p> <p>5.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p>

ELEMENT	PERFORMANCE CRITERIA
	5.5. All product is removed from operating area 5.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 5.7. Repair/adjustment is verified prior to resumption of operations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and printing processes to ensure efficient production
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by identifying print problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- OHS concerns that are there when operating the reel transportation system
- reel wander cause
- cause of the web to break at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- a print fault that would result from the reel being run out of centre
- possible faults in the unwind section that could cause a web break
- OHS concerns that are there when operating the sheet transportation system
- result of worn suckers at the feeder suction head
- sheet detection types that are on this machine
- amount of movement that the sheet should have when being registered by the side lay
- cause of mis-register of the sheet at the feeder
- visible signs of the sheet being registered in the feeder
- gripper malfunction affect on the sheet control and transfer
- adjustment of the sheet transfer mechanisms
- cause of the feeder stack to become uneven
- result of the feeder stack not being loaded level
- rectifying the unevenness of the feeder stack
- OHS risks that are associated with rewinding and sheeting
- a safety feature that is in the delivery system if the web jams up

REQUIRED SKILLS AND KNOWLEDGE

- sheet cut-off wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- further operations that are required for printed reels upon removal from the printing machine
- storing the printed job after removal from the printing machine
- need to label each printed reel
- effect that machine speed will have on sheet delivery
- advantage of spraying moving sheets with anti set off powder in the delivery
- items in the delivery that could cause marking of the printed image
- remedial steps that may be necessary to eliminate marking of the printed image
- function of a sheet decurler fitted to the delivery of some machines
- faults that could result from incorrectly set grippers in the transfer section of a machine
- storing the printed job after removal from the printing machine
- result if the plate develops a crack at the grip edge during a print run
- effect of a sticky blanket surface
- print faults that would result from the blanket not being tensioned correctly
- cause of blanket packing creep during printing
- effect of a build-up of ink on the impression cylinder the printed product
- cause of ink to lie back in the duct
- cause of ink stripping on the inking rollers
- print faults that would result from excessive use of fountain solution on the plate
- recommended pH range for fountain solutions
- cause of change in the conductivity of the fountain solution over an eight-hour shift
- problems that can be caused by excessive conductivity of the fountain solutions
- effect of eating or drinking near the machine when using UV inks
- link between driers and set off and marking
- causes of UV ink to dry
- cause of the substrate blistering
- effect in the chillers if the drying temperature was too low
- effect of incorrect drying temperature on the finished product
- effect of inadequate communication within the work team on a lithographic printing machine
- safety features within the organisation that aid in maintaining effective production
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- legally responsibility for the removal of machine guards and/or disconnection of micro switches
- disadvantage of using a closed looped system for automatic control of the printed product
- other measurement besides optimum solid ink density that can be measured to

REQUIRED SKILLS AND KNOWLEDGE

assess print quality

- most accurate method of checking register during a production run
- need to take immediate action when production problems are anticipated
- action that is taken to eliminate further processing of unacceptable printed product
- effect on a stack of paper if the relative humidity is increased in the press room
- procedure to care for a newly delivered skid of paper to the press room
- waste sorting
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- the necessary procedures that the client should follow to "OK" a printed product
- need to call service personnel to correct a machine problem?
- enterprise procedures that are in place to report any machine operating problems
- result if correct shutdown procedures were not followed
- need for correct shutdown procedures that are conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- clear labelling of the printed product prior to removal from the press room
- use of completed records in the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a lithographic press ensuring an efficient specialised production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a lithographic machine whilst producing a specialised print on TWO occasions (if possible using different types and sizes of substrates) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment lithographic printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR332C Produce complex lithographic printed product
- ICPPR431C Set up for complex lithographic printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> wide range of inks commonly used in printing.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of single sheet, stream-fed or reel-fed printing machines with manual, semi-automated, fully automated or computerised process control. Includes machines with digitally imaged plates.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of densitometers and/or spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> complex graphics and text. Critical "tight" registration, fit and position, registration for quality print requirements.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR441C Set up for complex pad printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for complex pad printing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up pad printing machines for multicoloured or non-routine print jobs. The individual will set up manual pre- and post-treatment processes, conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Install tampons (printing pads) into machine	2.1. Appropriate tampons are selected according to non-routine job specifications/requirements 2.2. Tampons are secured into machine
3. Set up fixtures onto machine bed or conveyor	3.1. Appropriate fixtures are selected and secured to xy table or conveyor jig plates 3.2. Adjust height of machine bed to suit size of object to be printed 3.3. Adjust xy table of machine bed to suit position of image on object
4. Select and prepare inks and additives	4.1. Inks , and additives are selected according to non-routine job specifications and end-user requirements 4.2. Quality and suitability of inks and additives are checked and appropriate action is taken 4.3. Inks and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink is mixed and prepared to match the requirements of the non-routine job specification and the printing process 4.5. Formulation of the ink, colour match and the approved colour are appropriately recorded 4.6. Inks and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
5. Set up machine for complex pad printing	5.1. Plate holders are set up and adjusted for register according to job specifications 5.2. Appropriate plates and plate holders are selected and plates are secured into plate holders 5.3. Tampons are set up and adjusted according to job specifications 5.4. Spatula and doctor blade are set up and adjusted according to the pad printing process and job

ELEMENT	PERFORMANCE CRITERIA
	specifications OR 5.5. Ink cups are set up and adjusted according to job specifications
6. Set up pre- and post-treatment in-line processes	6.1. In-line loading is set up to suit non-routine object and according to job specifications 6.2. In-line <i>pre-treatment</i> is set up to suit non-routine object and according to job specifications 6.3. In-line drying is set up to suit non-routine object and according to job specifications 6.4. In-line ejection is set up to suit non-routine object and according to job specifications
7. Conduct proof run	7.1. Material to be used for proof is organised correctly 7.2. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof 7.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures 7.4. Production does not commence without client OK or authority where appropriate 7.5. Results are interpreted and adjustments are carried out according to product and machine specifications to determine adjustment requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, cliché and tampon position, and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- different substrate groups and suggest the correct ink type for each group
- plastic subgroups for the purpose of ink selection
- adjustments made to the process colour inks for correct colour balance
- methods of improving opacity of a light coloured ink on a dark substrate
- determining the correct pad shape for (given) applications
- effect that pad shape and hardness have on print quality
- effect that commonly be seen at the contact point of the nipple of a pad in a large solid print, and how can it be avoided
- preparing a new pad for its first printing
- determining the correct plate type for (given) applications
- difference between steel and photopolymer plates for process printing
- reasons for mis-registered images and how can they be corrected
- OHS concerns that are there when setting presses and doctor blades
- adjustments to the machine so that the doctor blade is operating correctly
- effect of a damaged doctor blade
- types of doctor blades and explain their applications
- OHS concerns that are there when pre- and post-treating substrates
- common pre- and post-treatment methods for different substrates and their

REQUIRED SKILLS AND KNOWLEDGE

importance

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| <ul style="list-style-type: none">• causes and solutions for common print problems (eg hairlines around image, loss of density in the centre of a solid image, fine lines of ink running through image, distortion of image, picking up ink from substrate by subsequent pads, washed out images, loss of fine lines in images, inconsistent colour)• machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up pad printing machines for non-routine print jobs. The individual will set up manual pre- and post-treatment processes and conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a machine for complex pad printing on TWO occasions (if possible on different substrates) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended:</p> <ul style="list-style-type: none"> • ICPPR342C Produce complex pad printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only occasionally.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated, fully automated or computerised operation.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in multicoloured printing.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours and/or Pantone shades under controlled lighting conditions.
<i>Pre and post-treatment processes</i> may include:	<ul style="list-style-type: none"> range of pre- and post-treatment techniques used in pad printing.
<i>Design</i> may include:	<ul style="list-style-type: none"> multicoloured, complex graphics and text. Critical tight registration, fit and position.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR442C Produce specialised pad printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce specialised pad printed product that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a pad printing machine to produce specialised printed products that meet required quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised pad printing process	<p>1.1. Location of objects into fixtures is monitored, evaluated and adjusted if necessary</p> <p>1.2. Printing plates condition is monitored and evaluated to ensure the quality of printed product meets the standard of the approved proof</p> <p>1.3. Printing pads condition is monitored, evaluated and maintained to ensure the quality of printed product meets the standard of approved proof</p> <p>1.4. Spatulas and doctor blades are monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof OR</p> <p>1.5. Ink cups are monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof</p> <p>1.6. Printing ink viscosity is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof</p>
2. Maintain in-line systems	<p>2.1. In-line loading is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof</p> <p>2.2. In-line pre-treatment is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof</p> <p>2.3. In-line drying is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof</p>
3. Maintain production process	<p>3.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>3.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>3.3. Manual and/or automatic control is used as required according to job specifications</p> <p>3.4. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>3.5. Ink performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>3.6. Production difficulties are anticipated and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>preventive action is taken to prevent occurrence by timely intervention</p> <p>3.7. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>3.8. Waste is sorted according to enterprise procedures</p>
4. Tune and adjust machinery	<p>4.1. Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's specifications</p> <p>4.2. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery</p> <p>4.3. A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</p> <p>4.4. Options and recommendations are documented for future reference according to enterprise procedures</p> <p>4.5. Instruction on new practices is provided to machine operator or finisher, if required</p>
5. Troubleshoot machinery and material problems	<p>5.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>5.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>5.3. Changes are monitored to confirm improvement to production efficiency</p> <p>5.4. Ongoing problems are reported according to enterprise procedures</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Unused ink is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>6.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.5. All product is removed from operating area</p> <p>6.6. Machine faults requiring repair are identified and</p>

ELEMENT	PERFORMANCE CRITERIA
	reported, according to enterprise procedures 6.7.Repair/adjustment is verified prior to resumption of operations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing processes and job specifications
- collecting, analysing and organising information by identifying and recording specialised production practices
- planning and organising activities by adjusting the production process to achieve specialised printing requirements
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by adjusting machinery settings to determine the required tolerances to meet specialised requirements
- use of technology by using machinery to produce specialised pad printed product

Required knowledge

- major OHS concerns when operating this machine
- MSDSs that are stored and the information do they contain
- improvement of the colour density of a light image on a dark substrate by selection of a different machine cycle mode
- selection of the appropriate machine cycle mode to provide the highest production output for a particular product
- special cycle modes that are available on your machine and their application
- determining that the ink has been mixed to the correct viscosity
- correcting ink viscosity during production
- causes of unreleased ink remaining on the printing pad and how do you identify them
- effect of adding a catalyst on the pot life of ink and other factors that affect pot life
- recognising a damaged pad
- correct method of cleaning a pad during production
- effect of different pad shapes for different colours In multicoloured printing
- determining the time the ink should take to cure before scratch and adhesion tests can be performed
- method that can be used to check for correct pre-treatment of polypropylene during production
- ensuring the correct drying conditions for the product

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• effects that will be visible in the image if the ink viscosity is incorrect• identifying the cause of incorrect registration and preventing its recurrence• cause of a fine coating of ink over the whole cliché surface• machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a pad printing machine ensuring an efficient specialised production flow that maintains product quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce TWO complex pad printing jobs (if possible on different substrates) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPPR342C Produce complex pad printed product• ICPPR441C Set up for complex pad printing.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in multicoloured printing.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated, fully automated or computerised operation.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours and/or Pantone shades under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> multicoloured, complex graphics and text. Critical tight registration, fit and position pre- and post-treatment processes range of pre- and post-treatment techniques used in pad printing.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.
<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR451C Set up for complex relief printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for complex relief printing.
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Application of the Unit

Application of the unit	This unit requires the individual to set up reel- or sheet-fed platen, cylinder or rotary printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind and rewind reels are set up and adjusted according to job specifications 2.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 2.3. Reels are spliced/joined according to job specifications 2.4. Printed web viewing devices are set up and adjusted according to job specifications 2.5. Folder and sheeters are set up and adjusted according to job specifications 2.6. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery sections are set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer and control systems are set up and adjusted according to job specifications 3.4. Substrate is added to and removed from process according to job instructions 3.5. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Select and prepare inks and additives	4.1. Inks , dyes or additives are selected according to job specifications and end-user requirements 4.2. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken 4.3. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications 4.5. Formulation of the ink, colour match and the

ELEMENT	PERFORMANCE CRITERIA
	<p>approved colour are appropriately recorded</p> <p>4.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
<p>5. Set up machine for complex relief printing</p>	<p>5.1. Appropriate relief plates are selected and secured to the <i>machine</i></p> <p>5.2. Relief polymer plates/forme are set up and adjusted according to job specifications (platen)</p> <p>5.3. Relief polymer cylinders are set up and adjusted according to job specifications (platen)</p> <p>5.4. Impression is set up and adjusted according to job specifications (platen and rotary)</p> <p>5.5. Inking system is set up and adjusted according to the relief process and job specifications (platen and rotary)</p> <p>5.6. Drying system is set up and adjusted according to job specifications</p>
<p>6. Conduct proof run</p>	<p>6.1. Material to be used for proof is organised correctly</p> <p>6.2. Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof</p> <p>6.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures Production does not commence without client OK or authority where appropriate</p> <p>6.4. Production does not commence without client OK or authority where appropriate</p> <p>6.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- job requirements
- production problems that could eventuate by not reading and understanding the job specifications
- with whom would you discuss any production problems
- relief plates
- why hardness of the printing plate is important
- faults that may be detected on new plates
- type of solvents that should be used on photopolymer plates
- V-block mounting
- purpose of binding plates after mounting
- checks that need to be performed prior to cylinder installation
- machine frames and unit slides to be kept cleaned
- OHS precaution must be observed when installing printing cylinders in the machine
- optimum print sequence
- visual aid on the plate that identifies the colour of ink to be used
- precautions to be taken to ensure that the plate/cylinders were not damaged during installation

REQUIRED SKILLS AND KNOWLEDGE

- reel transportation system on a web-fed machine
- OHS precaution that must be observed when webbing up the machine?
- determining the position of the reel
- implications if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- function of nip rollers
- web is not spiced correctly
- sheet transportation system on a sheet-fed machine
- major OHS concerns when setting up the sheet transportation system
- what causes more than one sheet to pick up in the feeder
- accurate feeder set up is essential
- determining the position of the sheet prior to being transferred to the printing unit?
- determining which front lays to use
- types of substrate that require additional front lays to be engaged
- why additional front lays would be necessary when printing this type of substrate
- reel delivery system on a web-fed machine
- OHS precautions that must be observed when setting up the delivery
- web controlled in the rewind unit
- function of a slitter on a web machine
- problems that could be attributed to a blunt knife when sheeting
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- sheet delivery system on a sheet-fed machine
- OHS precautions that must be observed when removing sheets from the delivery
- what causes sheets to be delivered incorrectly
- what adjustments are necessary if changing from lightweight to heavyweight stocks?
- determining the sheet release into the delivery
- problems resulting from the excessive use of anti set off spray powder
- what causes printed sheets to set off in the delivery
- how the possibility of set off in the delivery can be reduced
- how air blast assists sheet delivery
- inks and additives
- OHS concerns related to the preparation of inks and additives
- details are necessary to check inks suitability for the printing process
- special end-use requirements that may be necessary
- why it might be necessary to mix an additive into the ink
- how a spectrophotometer can be used to assess the colour of ink
- the formula for calculating the correct quantity of ink in relief printing
- print faults that will occur if excessive driers are mixed into the ink

REQUIRED SKILLS AND KNOWLEDGE

- precautions that are observed to minimise waste when preparing the ink
- shelf life of most ink
- conditions that are relevant to the storage of inks and additives
- conventions should be adhered to when labelling mixed inks
- machine set up
- what are the Major OHS concerns when setting up the machine
- packing required in the tympan
- determining the amount of printing pressure
- what is the ideal condition of the tympan
- how the correct top sheet tension is achieved when fitting a new tympan
- print faults can occur if the tympan is not tensioned correctly
- order in which eccentric or concentric roller adjustments be made
- when setting the rollers, the width of the contact stripe between two rollers
- determining the ink duct setting
- ideal ink duct sweep setting
- recommended degrees shore hardness for forme rollers
- main reason for blistering on a heat set machine
- types of ink drying/curing systems
- how the drying unit cures the ink
- in-line processes
- OHS precautions that must be observed when slitting on the machine
- operations that can be performed with in-line units
- what machine position should you engage in-line processing units
- precautions that are necessary when setting up in-line processing units
- reasons for a printed product to be top cut
- benefits of embossing in-line
- result of excessive pressure when top cutting
- result of excessive pressure when cutting and creasing
- effect differing tooth counts have on perforated products
- problem solving proofing and adjustment
- operation of the true inch function fitted to some machines
- problems that may cause the machine to keep stopping
- checks that are necessary prior to engaging the impression
- checks to be performed when running the machine
- effect the position of certain guards have on the operation of the machine
- steps involved in operating the machine communicated to other team members
- aids that are available for the testing of the machine proof
- tests that are necessary for this job
- where the testing should take place
- function of a polarisation filter in a densitometer

REQUIRED SKILLS AND KNOWLEDGE

- ideal conditions for inspecting the proof
- why it is necessary to use visual aids on the printed substrate
- causes of a halo effect on the image
- methods that are available to check and adjust ink colour and consistency
- adjustments that may have caused mis-register
- adjustments that are made to position the image laterally
- adjustments that are made to position the image circumferentially
- how changing the colour sequence can effect the final colour cast
- procedure to lengthen the print length on this type of press
- procedure to shorten the print length on this type of press
- difference between mechanical and optical dot gain
- causes of excessive mechanical dot gain
- who has the final say in the "OK" of the job?Information sources
- machine manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up reel- or sheet-fed platen, cylinder or rotary printing machines for non-routine print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a relief printing machine for complex printing on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • reel- or sheet-fed platen, cylinder or rotary printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none">• ICPPR352C Produce complex relief printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel, and large and small sheet handling systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> • range of platen, cylinder and rotary machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> • 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> • minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Non-routine</i> may include:	<ul style="list-style-type: none"> • non-routine within this context relates to the set up and production of print runs. The set up of equipment and production involves a significant amount of deviation from using standard equipment settings. It also involves significant problem solving and the development of new criteria and procedures for performing current practices. It does not refer to a job that an individual does only

RANGE STATEMENT

	occasionally.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units	

ICPPR452C Produce specialised relief printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a specialised relief printed product that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a platen, cylinder or rotary printing machine to produce a specialised printed product that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised relief printing process	<p>1.1. Relief polymer forme or plate cylinder condition is monitored, evaluated and adjusted to ensure the quality of the specialised printed product meets the standard of the sample sheet</p> <p>1.2. Relief polymer impression surface condition is monitored, evaluated and adjusted to ensure the quality of specialised printed product meets the standard of sample sheet</p> <p>1.3. Relief polymer inking system is monitored, evaluated and adjusted to ensure quality of specialised printed product meets the standard of sample sheet</p> <p>1.4. Drying systems are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the standard of approved proof</p>
2. Maintain production process	<p>2.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule</p> <p>2.2. If required, <i>in-line</i> printing/converting/binding/finishing processes are monitored and adjusted to ensure quality of product meets the standard of the approved proof</p> <p>2.3. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>2.4. Manual and/or automatic control is used as required according to job specifications</p> <p>2.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>2.6. <i>Ink</i> performance, colour, register and position of print are monitored and adjusted throughout production run</p> <p>2.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>2.8. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>2.9. Waste is sorted according to enterprise procedures</p>
3. Tune and adjust machinery	<p>3.1. Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>exploit the idiosyncrasy, within manufacturer's specifications</p> <p>3.2. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery</p> <p>3.3. A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</p> <p>3.4. Options and recommendations are documented for future reference according to enterprise procedures</p> <p>3.5. Instruction on new practices is provided to machine operator or finisher, if required</p>
4. Troubleshoot machinery and material problems	<p>4.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>4.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>4.3. Changes are monitored to confirm improvement to production efficiency</p> <p>4.4. Ongoing problems are reported according to enterprise procedures</p>
5. Conduct shutdown of production process	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Unused ink is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.4. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>5.5. All product is removed from operating area</p> <p>5.6. Machine faults requiring repair are identified and reported, according to enterprise procedures</p> <p>5.7. Repair/adjustment is verified prior to resumption of operations</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing processes and job specifications
- collecting, analysing and organising information by interpreting machine feedback to ensure specialised product requirements are achieved
- planning and organising activities by determining the most effective processes to produce a specialised printed product
- teamwork when working with others to maintain the production process
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by identifying print problems and correcting during print run to produce a specialised printed product
- use of technology by using machinery to the full extent of its capacity to produce specialised printed product

Required knowledge

- major OHS concerns when setting up the reel transportation system
- reel wander cause
- cause of the web to break at the unwind unit
- a print fault that would result from the reel being run out of centre
- possible faults in the unwind section that could cause a web break
- OHS concerns that are there when operating the sheet transportation system
- result of worn suckers at the feeder suction head
- sheet detection types that are on this machine
- amount of movement that the sheet should have when being registered by the side lay
- cause of mis-register of the sheet at the feeder
- visible signs of the sheet being registered in the feeder
- gripper malfunction affect on the sheet control and transfer
- adjustment of the sheet transfer mechanisms
- cause of the feeder stack to become uneven
- result of the feeder stack not being loaded level
- rectifying the unevenness of the feeder stack
- OHS risks that are associated with rewinding and sheeting
- a safety feature that is in the delivery system if the web jams up
- sheet cut-off wander

REQUIRED SKILLS AND KNOWLEDGE

- effect of poorly adjusted nip rollers when rewinding and sheeting
- effect that machine speed will have on sheet delivery
- advantage of spraying moving sheets with anti set off powder in the delivery
- items in the delivery that could cause marking of the printed image
- remedial steps that may be necessary to eliminate marking of the printed image
- faults that could result from incorrectly set grippers in the transfer section of a machine
- adjustments that are made to devices to maintain sheet control in the delivery
- result if the plate lifts at the grip edge during a print run
- effect on the printed product of a build-up of ink on the impression cylinder
- cause of the ink to lie back in the duct
- rectifying the problem of paper surface picking
- cause of diminished impression during the print run
- cause of the plate surface to prematurely wear during production
- effect of eating or drinking near the machine when using UV inks
- link between driers and set off and marking
- causes of UV ink to dry
- cause of the substrate blistering
- effect of incorrect drying temperature on the finished product
- effect of inadequate communication within the work team on a lithographic printing machine
- safety features within the organisation that aid in maintaining effective production
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- legally responsibility for the removal of machine guards and/or disconnection of micro switches
- other measurement besides optimum solid ink density that can be measured to assess print quality
- most accurate method of checking register during a production run
- need to take immediate action when production problems are anticipated
- action that is taken to eliminate further processing of unacceptable printed product
- effect on a stack of paper if the relative humidity is increased in the press room
- procedure to care for a newly delivered skid of paper to the press room
- waste sorting
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- need to call service personnel to correct a machine problem?
- enterprise procedures that are in place to report any machine operating problems
- result if correct shutdown procedures were not followed

REQUIRED SKILLS AND KNOWLEDGE

- need for correct shutdown procedures that are conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- clear labelling of the printed product prior to removal from the press room
- use of completed records in the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operate a platen, cylinder or rotary printing machine to produce a specialised printed product that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources monitor production output and make necessary adjustments to maintain print quality on a relief printing machine whilst producing a specialised print on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment platen, cylinder or rotary printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR352C Produce complex relief printed product
- ICPPR451C Set up for complex relief printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of platen, cylinder and rotary machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of densitometers and spectrophotometry.
<i>Design</i> may include:	<ul style="list-style-type: none"> 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.
<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from

RANGE STATEMENT

	new product or equipment combinations.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR471C Set up for complex coating

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for non-routine coating.
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Application of the Unit

Application of the unit	This unit requires the individual to set up rollers and the reel or sheet systems for coating a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly and in minimum time 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind set up and adjusted according to job specifications 2.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 2.3. Reels are spliced/joined according to job specifications 2.4. Printed web viewing devices are set up and adjusted according to job specifications 2.5. Set off/marketing prevention devices are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery is set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer and control systems are set up and adjusted according to job specifications 3.4. Substrate is added to and removed from process according to job instructions 3.5. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Select and prepare coating	4.1. Coating is selected according to job specifications and end-user requirements 4.2. Quality and suitability of coating is checked and appropriate action is taken 4.3. Coatings and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct weight/volume of coating is prepared to match the requirements of the job specification and the coating process 4.5. Check the viscosity of coating is correct for the job 4.6. Formulation of the coating is appropriately recorded

ELEMENT	PERFORMANCE CRITERIA
5. Set up machine for coating	<p>5.1. Appropriate rollers/cylinders are selected and secured to the <i>machine</i> and set</p> <p>5.2. Application system is set up and adjusted according to job specifications</p> <p>5.3. Choose appropriate anilox roller and ensure it is installed to manufacturer's specifications</p> <p>5.4. Set doctor blades to manufacturer's specifications</p> <p>5.5. Coating delivery system is set up with correct flow and return flow determined by air pressure or pump speeds and adjusted according to job specifications</p> <p>5.6. Cut a coating blanket or install a plate for non-image areas</p> <p>5.7. Check that blanket or plate packing is suitable to the job</p> <p>5.8. Check that the coating temperature is suitable for the job</p> <p>5.9. Drying system is set up and adjusted according to job specifications</p>
6. Conduct proof run	<p>6.1. Material to be used for proof is organised correctly</p> <p>6.2. Machine is set up and operated, and roller and pressure settings are checked, to produce a specified proof according to OHS requirements, manufacturer's specifications and enterprise procedures</p> <p>6.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures</p> <p>6.4. Production does not commence without client OK or authority where appropriate</p> <p>6.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications to determine adjustment requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal and external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about coating process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, plate or blanket position, and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- information on the work ticket listing the type of coating required
- action taken if vital information were missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc)
- major OHS concerns when setting up the sheet or reel transportation system
- choosing the coating side of the material
- effect of low web tension on the print
- effect of inefficient web splices
- determining the sheet or reel position for the job
- effect the side lay selection has on the job
- selecting the appropriate front lays
- carrying out a register check
- use of a two-sheet cut out on most feeders (sheet)
- checking of a sheet is missing or late
- checking of a web break
- safety risks associated with the rewind of the machine
- effect of excessive web tension at the rewind of the machine
- effect that too much vacuum on the slow-down wheels has on the job
- determining the position of register or bustle wheels

REQUIRED SKILLS AND KNOWLEDGE

- effect that excessive jogging would have on the stack
- OHS concerns that are relevant to the use of coatings
- types of coatings and their applications
- suitability of the coating for the job
- ability of the coat to adhere to the product
- amount of coating required
- range of viscosities that should you run with on an aqueous coating
- effect of incorrect viscosity on coating
- adjusting the viscosity of a coating
- methods that the coating use to solidify
- drying UV coating
- printing principle that is being utilised to apply aqueous coating
- importance that gluing tabs are not coated
- temperature the drier is set at to dry aqueous coating
- determining which image carrier (plate or blanket) to use
- position of the coating checked against the print
- effect that skeleton wheels could have on the surface of the coating
- measuring the amount of gloss on the surface
- responsibility for the final "OK" on the job
- effect that you get when you don't have enough coating on a sheet
- effect that a UV coating would have on a wet print
- effect that excessive temperature would have on the sheet
- effect that you would get if the viscosity were too high or too low
- effect that you would get if ink coverage were excessive, ie over 250%
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up rollers and the reel or sheet systems for coating a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up for THREE complex coating operations (one spot coating, one overall coating and one fine detail, using THREE different coatings of which one must be metallic) and if possible including at least ONE in-line process) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • dedicated coating machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE	
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Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none">• ICPPR472C Produce complex coated product.
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Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> narrow or wide reel handling, and small and large sheet systems.
<i>Coatings</i> may include:	<ul style="list-style-type: none"> a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of dedicated coating machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and densitometry to match basic standard tints under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> spot coating, overall coating and fine detail coating.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> full range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR472C Produce complex coated product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex coated product.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a complex coated product on either a reel- or sheet-fed machine ensuring an efficient production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain operation of reel system (OR Element 2)	1.1. Reel stand and rewind section are is monitored and adjusted to maintain correct tension and to ensure no marks or blemishes to finished product and to ensure efficient continuous operation 1.2. Web control system is monitored and adjusted to ensure correct tension and accurate continuous positioning of the web for efficient operation 1.3. Substrate is added to and removed from process according to job instructions 1.4. Sheeting section is monitored and adjusted to ensure quality and efficient product delivery
2. Maintain operation of sheet system (OR Element 1)	2.1. Feeder and delivery is monitored and adjusted to ensure continuous and efficient feeding to machine 2.2. Sheet pick-up and transport system is monitored and adjusted to ensure accurate and continuous sheet handling and efficient operation 2.3. Transfer and control systems are monitored and adjusted to ensure correct and continuous sheet handling and efficient operation 2.4. Substrate is added to and removed from process according to job instructions
3. Maintain coating process	3.1. Roller condition is monitored and adjusted to ensure the quality of printed product meets the standard of approved proof 3.2. Coating system and doctor blade condition (if appropriate) are monitored and adjusted to ensure quality of product meets the standard of approved proof 3.3. Drying systems are monitored and adjusted to ensure quality of product meets the standard of approved proof 3.4. Quality and viscosity of varnish coatings are monitored and adjusted as necessary to ensure quality of product
4. Maintain production process	4.1. Basic or complex in-line printing/converting/binding/finishing processes are monitored and adjusted to ensure quality of product meets the standard of the approved proof 4.2. Production process is operated in association with fellow workers and according to company specifications and planned daily schedule

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Production is maintained within OHS requirements and company and manufacturer's specifications</p> <p>4.4. Manual and/or automatic control is used as per specification</p> <p>4.5. Performance is monitored and verified using the process control system according to enterprise procedures</p> <p>4.6. Coating performance, register and position of coating are monitored and adjusted throughout production run</p> <p>4.7. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention</p> <p>4.8. Process adjustments to eliminate problems are reported according to enterprise procedures</p> <p>4.9. Waste is sorted according to enterprise procedures</p>
5. Identify and rectify problems	<p>5.1. Faulty performance of equipment is identified and reported according to enterprise procedures</p> <p>5.2. Problems in coating machine are identified and reported according to enterprise procedures</p> <p>5.3. Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level</p> <p>5.4. Coating machine operation is checked to ensure correct operation</p>
6. Conduct shutdown of production process	<p>6.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>6.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>6.3. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures</p> <p>6.4. All product is removed from operating area</p> <p>6.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>6.6. Repair/adjustment is verified prior to resumption of operations</p>
7. Clean and wash up coating machine at	7.1. Cylinders, plate and roller surfaces are cleaned ready for next run

ELEMENT	PERFORMANCE CRITERIA
end of print run	7.2. Coating delivery system is washed up ready for next run, and liquid waste is disposed of according to company and regulatory requirements 7.3. In-line slitting units are cleaned ready for next run 7.4. Reef feed, transportation and delivery systems are disengaged and cleaned ready for next run 7.5. Production records or other documentation are accurately completed where required by enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients about printing, in-line processes and job specifications
- collecting, analysing and organising information by collating details of job and machine specifications and coating processes to ensure efficient production
- planning and organising activities by coordinating sequences for coating and wash-up
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by identifying coating problems and correcting during print run
- use of technology by using monitoring systems, understanding their output and feeding into production management systems

Required knowledge

- action if vital information were missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc)
- major OHS concerns when setting up the sheet or reel transportation system
- effect of fanning the sheets before loading into the press
- setting and checking the double sheet detector during the print run
- effect on the print of excessive tension on the rewinding reel
- effect if the web is not spliced correctly
- precautions that should be taken to ensure that the rewound product is of consistent acceptable quality
- if sheeted, components that can be adjusted to ensure correct delivery
- identifying printed material that is not of an acceptable standard
- major OHS concerns when coating
- action that could be taken if the aqueous coating was smudging on the delivery section of the machine
- effects anti set off spray could have on the finished job
- level the coating should be maintained in the pan
- effect the UV lamp has on the UV coating
- varying the temperature and volume of hot and cold air knives
- use of IR radiation (including choice of medium or short wave lamps) and its

REQUIRED SKILLS AND KNOWLEDGE

effect when using coatings

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| <ul style="list-style-type: none">• dangers that exist from solvents and solutions used to clean the coating system, plates, cylinders and the press• parts of the machine that should be thoroughly cleaned following the coating of the job• components that are to be inspected for wear following the print run• records that are important for following or repeat prints• machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> produce a complex coated product on either a reel- or sheet-fed machine ensuring an efficient production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce THREE complex coating jobs (one spot coating, one overall coating and one fine detail, using THREE different coatings one of which must be metallic and if possible including at least ONE in-line process) according to job specifications, enterprise procedures and the Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a print machine or a dedicated coating machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE

assessment

industry sector, workplace and job role is recommended, for example:

- ICPPR471C Set up for complex coating.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> narrow or wide reel handling, and small and large sheet systems.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of dedicated coating and printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Coatings</i> may include:	<ul style="list-style-type: none"> a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment and densitometry to match basic standard tints under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> spot coating, overall coating and fine detail coating.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> full range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR484C Prepare for variable data printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to confirm data requirements and prepare and link data to a template ready for printing.
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Application of the Unit

Application of the unit	This unit requires the individual to use a database requiring sophisticated variable data fields and a complex page layout with multiple static and variable elements, both text and graphics, for producing customised print runs.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm data requirements	<p>1.1. The <i>job specifications</i> are reviewed to identify document purpose</p> <p>1.2. Materials required for page design, layout and content are identified from job specifications</p> <p>1.3. Source and format of data is determined and confirmed</p> <p>1.4. The page design template is evaluated for printing purposes and static and <i>variable fields</i> are correctly understood and labelled</p> <p>1.5. Responsibility for data accuracy and other tests such as spell checks and postal software is agreed with client</p>
2. Prepare data	<p>2.1. Data required to populate the copy holes in the variable-data template is established</p> <p>2.2. The fields to be populated are confirmed and linked to data required to <i>markup</i> the copy holes in the variable-data template</p> <p>2.3. A <i>composition engine</i> is used to achieve the required data format and page layout requirements for merging variable data and static elements</p> <p>2.4. Business rules are developed to reduce data errors and discrepancies</p> <p>2.5. If possible, a sample of the data is obtained and preliminary checks run, making sure the data and format is correct</p> <p>2.6. A soft proof is performed to ensure the <i>quality</i> of all static and variable elements</p> <p>2.7. If high variability, RIPped data is spooled prior to printing to maintain higher engine speeds</p> <p>2.8. A sample from the machine is produced and checked for conformance to the job specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by determining and confirming source and format of data in consultation with the client
- collecting, analysing and organising information by evaluating the page design template and correctly labelling static and variable fields
- planning and organising activities by confirming data requirements before developing business rules
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by assessing the output rate of the printing equipment
- problem-solving skills by developing a soft proof to ensure the quality of all static and variable elements
- use of technology by using relevant hardware and software to prepare for variable digital printing

Required knowledge

- PPML/VDX, XML
- privacy legislation
- database operation
- knowledge of data mining

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use a database requiring sophisticated variable data fields and a complex page layout with multiple static and variable elements, both text and graphics with flexible placement • confirm data requirements and prepare data and link it to a template ready for printing on TWO different jobs • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • relevant computer hardware and software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPP385C Operate a database for digital printing • ICAB4135B Create a simple mark-up language document to specification.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> • job sheets, batch processing orders, job specs.
<i>Variable fields</i> may include:	<ul style="list-style-type: none"> • text, images, layout, with flexible placement.
<i>Markup</i> may include:	<ul style="list-style-type: none"> • PPML/VDX, XML.
<i>Composition engine</i> may include:	<ul style="list-style-type: none"> • DL Formatter, Autograph Series, DL Pager, Calligramme, DL Composer.
<i>Quality</i> may include:	<ul style="list-style-type: none"> • efficiency, quality and output rate.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units	

ICPPR491C Use on-press monitoring of print quality

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use computerised print quality monitoring devices.
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Application of the Unit

Application of the unit	This unit requires the individual to select computerised settings to set up and run a press to acceptable tolerances and to monitor quality both electronically and visually during the run, and to make adjustments to maintain print quality. Additional adjustments to the specifications may be made during the run and adjustments made to suit.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up print control devices	1.1.CIP3/CIP4 data, or equivalent, is used to create a profile 1.2.Job is made ready to achieve position, register and fit to the <i>specified standards</i> 1.3.Colour is made ready to match appropriate colour standards 1.4.Data is interpreted and appropriate adjustments made to gain approval to run <i>press</i>
2. Maintain print quality throughout the run	2.1.Print is inspected visually to meet specified standards during run 2.2.Data is analysed against the required standards 2.3.Appropriate adjustments are made to maintain consistency throughout run 2.4.At regular intervals <i>monitor</i> and maintain job to ensure <i>quality</i>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating specifications for colour profiles and pre-press requirements for printing to clients
- collecting, analysing and organising information by collating and integrating information on colour profiles and press performance
- planning and organising activities by establishing sequence of monitoring to ensure quality output
- teamwork when integrating job planning with pre-press
- mathematical ideas and techniques by understanding and applying colour profiles and curves to machine adjustment
- problem-solving skills by monitoring samples and adjusting equipment as necessary
- use of technology by efficiently using monitoring systems to ensure quality output

Required knowledge

- colour theory of additive colours (light), RGB
- colour theory of subtractive colours (pigments), CMYK
- relationship between ranges of visual colour RGB and CMYK
- ICC profiling
- underlying principle of densitometry
- underlying principle of spectrophotometry
- basic underlying principles for determining tolerance in densitometry and spectrophotometry
- an original colour control bar determinates
- determining the accuracy of the elements in a colour bar
- ensuring consistent print quality output
- recognising colour contamination
- setting alarm limits for colour contamination
- accessing data
- determine that data is appropriate
- sample to ensure consistency
- processes that you would put in place if sample varies from standard
- ways quality can vary and how they can be fixed
- computerised functions, common faults and electronic registration systems
- information that you need from pre-press to ensure quality product

REQUIRED SKILLS AND KNOWLEDGE

- | |
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| <ul style="list-style-type: none">• information that you need to give to pre-press to ensure quality product• meaning of the terms registration, fit, position and alignment• importance of registration marks |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • may be defined by enterprise/operator or default tolerances, client requirements, colour tolerances, industry standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up and align monitoring device to appropriate standards on THREE occasions • produce profiles of samples taken during THREE different print runs that show print production is within agreed tolerances, if possible using different variables • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a computerised printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • this unit is an additional skill to most printing units and may be assessed at the same time.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Specified standards</i> may include:	<ul style="list-style-type: none"> may be defined by enterprise/operator or default tolerances, client requirements, colour tolerances, industry standards.
<i>Presses</i> may include:	<ul style="list-style-type: none"> press must be aligned to recognised colour standard.
<i>Monitoring systems</i> may include:	<ul style="list-style-type: none"> built-in or add-on or stand alone systems including: image control. Electronic colour management eg densitometry, colour imagery, Komori system, spectrophotometry.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> CIP3 and CIP4
<i>Electronic data transfer</i> may include:	<ul style="list-style-type: none"> press management systems such as Prepress Interface, PECOM.
<i>Plates</i> may include:	<ul style="list-style-type: none"> colour bars must be original.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR492C Use on-press print control devices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use computerised on-press print control devices.
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Application of the Unit

Application of the unit	This unit requires the press operator to access or input print quality data and to perform adjustments to match the proof and maintain print quality throughout the run.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up print control devices	1.1.CIP3/CIP4 data is accessed for the next print run 1.2.Data is pre-set and options/parameters selected according to the next job specifications 1.3.Data is released to <i>press</i> according to manufacturer's recommended procedure 1.4.Accurate position and fit are attained 1.5.Approximate colour, density and ink/water balance if applicable are attained 1.6.Make ready sheets are scanned or corrections are inputted until the print matches the proof or the client's requirements 1.7.Client or supervisor's approval is obtained prior to running the job
2. Maintain print quality throughout the run	2.1.Print <i>quality</i> is continuously <i>monitored</i> visually 2.2.Sheets are scanned to verify visual assessment 2.3.Any correctional data is released to maintain print quality
3. Maintain equipment	3.1.Maintenance tasks are performed according to the operator's manual 3.2.Equipment is calibrated according to the operator's manual

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating specifications for colour profiles and pre-press requirements for printing to clients
- collecting, analysing and organising information by collating and integrating information on colour profiles and press performance
- planning and organising activities by establishing sequence of monitoring to ensure quality output
- teamwork when integrating job planning with pre-press
- mathematical ideas and techniques by understanding and applying colour profiles and curves to machine adjustment
- problem-solving skills by monitoring samples and adjusting equipment as necessary
- use of technology by efficiently using monitoring systems to ensure quality output

Required knowledge

- ICC profiling
- underlying principle of densitometry
- underlying principle of spectrophotometry
- basic underlying principles for determining tolerance in densitometry and spectrophotometry
- an original colour control strip determinates
- determining the accuracy of the elements in a colour strip
- ensuring consistent print quality output
- recognising colour contamination
- setting alarm limits for colour contamination
- sample to ensure consistency
- processes that you would put in place if sample varies from standard
- ways quality can vary and how they can be fixed
- computerised functions, common faults and electronic registration systems
- information that you need from pre-press to ensure quality product
- information that you need to give to pre-press to ensure quality product
- meaning of the terms registration, fit, position and alignment
- importance of registration marks

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • may be defined by enterprise/operator or default tolerances, client requirements, colour tolerances, industry standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up and align monitoring device to appropriate standards on THREE occasions • produce profiles of samples taken during THREE different print runs that show print production is within agreed tolerances, if possible using different variables • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a computerised printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • this unit is an additional skill to most printing units and may be assessed at the same time.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Presses</i> may include:	<ul style="list-style-type: none"> press must be aligned to recognised colour standard.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> CIP3 and CIP4.
<i>Monitoring systems</i> may include:	<ul style="list-style-type: none"> built-in or add-on or stand alone systems including: image control. Electronic colour management eg densitometry, colour imagery, Komori system, spectrophotometry.
<i>Electronic data transfer</i> may include:	<ul style="list-style-type: none"> press management systems such as Prepress Interface, PECOM.
<i>Plates</i> may include:	<ul style="list-style-type: none"> colour bars must be original.
<i>Specified standards</i> may include:	<ul style="list-style-type: none"> may be defined by enterprise/operator or default tolerances, client requirements, colour tolerances, industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR493C Set up and monitor in-line printing operations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up and monitor in-line printing operations.
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Application of the Unit

Application of the unit	This unit requires the individual to set up either a reel- or sheet-fed machine that incorporates one or a number of defined in-line operations. The individual will conduct a proof run and adjust settings to ensure acceptable production speed and quality are attained and maintained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time and with minimum wastage 1.3. Availability of all job related components is checked
2. Set up machine for in-line operation	2.1. Substrate transportation system is set up according to job specifications 2.2. Set off/marketing prevention devices are set up and adjusted according to job specifications 2.3. Appropriate image carrier /cutting device is selected and secured to the unit 2.4. Impression is adjusted and set according to job specifications 2.5. Image transfer or inking devices are adjusted and set according to job specifications
3. Conduct proof run	3.1. Material to be used for proof is organised correctly 3.2. Machine is operated according to manufacturer's specifications and enterprise procedures to produce a specific proof 3.3. Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 3.4. Production does not commence without client approval or authority where appropriate 3.5. Results are interpreted and adjustments made according to product and machine specifications
4. Maintain and monitor production process	4.1. Production process is operated and monitored in association with fellow workers and according to enterprise procedures and planned daily schedule 4.2. Product is monitored and minor adjustments are made to ensure quality of output is maintained 4.3. Major adjustments to process are identified and reported to designated personnel according to enterprise procedures 4.4. Faulty performance of equipment is identified and reported to designated person according to enterprise procedures 4.5. Waste is sorted according to enterprise procedures
5. Conduct shutdown of	5.1. Correct shutdown sequence is followed according to

ELEMENT	PERFORMANCE CRITERIA
production process	<p>manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.3. Unused ink/coating, if used in process, is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.4. All product is removed from operating area</p> <p>5.5. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.6. Repair/adjustment is verified prior to resumption of operations</p>
6. Clean and wash up	<p>6.1. Cylinders, image carriers/cutting devices and roller surfaces are cleaned ready for next run</p> <p>6.2. Image carriers/cutting devices are removed and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>6.3. Inking system and <i>additional units</i> are washed up ready for next run</p> <p>6.4. Liquid waste is disposed of according to enterprise procedures and regulatory requirements</p> <p>6.5. <i>In-line</i> units are cleaned ready for next run</p> <p>6.6. Substrate feed, transportation and delivery systems are disengaged and cleaned ready for next run</p> <p>6.7. Production records or other documentation are accurately completed where required by enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients regarding in-line processes and job specifications
- collecting, analysing and organising information by collecting and assessing data regarding printing operations, machine specifications, their characteristics and how they interact
- planning and organising activities by organising production sequences to maximise efficiency
- teamwork when communicating with work team members involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating substrate requirements and printing pressures
- problem-solving skills by monitoring product and making minor adjustments to ensure quality of output is maintained
- use of technology by using monitoring equipment and interpreting readouts

Required knowledge

- important information that you would acquire from the job ticket
- action taken if vital information were missing from the job ticket
- devices that are used to control the substrate in the in-line unit
- problems that could develop from an incorrectly set transportation section
- OHS concerns that need to be considered when setting up the in-line unit
- others units of the machine that would need to be set up prior to the in-line unit
- parts of the in-line unit that are responsible for position
- precautions that need to be observed when setting the impression
- checks that you need to perform after a proof run on any in-line operation or process
- notification if there was a problem with any aspect of the job during make ready
- methods that are used to minimise waste during make ready
- signs of wear of the image carrier
- marking printed material by the operator that is not of an acceptable standard
- print faults that would the operator be identifying during the print run
- frequency quality of the product should be assessed
- OHS requirements that should be observed during machine shutdown
- areas of the in-line unit that may require repair
- determining the workflow of the product

REQUIRED SKILLS AND KNOWLEDGE

- responsibility for the repair of the machine
- procedures that need to be observed when storing image carriers or cutting devices
- OHS concerns that should be observed when storing cutting devices
- requirements for the disposal of liquid waste?
- specific components of the in-line that need to be cleaned thoroughly
- effect on machine production if components were not cleaned thoroughly following the print run
- outcome of the operator not completing production information on the job ticket
- records that must be completed in the event of a reprint or repeat print run

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up and monitor in-line printing operations that would tend to be complex in nature and incorporated into other printing processes • set up and monitor one or more in-line processes on TWO occasions according to job specifications, enterprise procedures and the Performance Criteria • evidence for assessment can be gathered from a combination of activities of a number of units of competency.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • reel or sheet-fed machine that incorporates an in-line process or operation described in the Range Statement.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films or metal.
<i>Image carrier</i> may include:	<ul style="list-style-type: none"> a device where the selected areas and surface are prepared in such a way as to transfer ink or image to the substrate.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line configuration and central impression printing machines with manual, semi-automated, fully automated or computerised process control. Machines can incorporate one or more in-line process operations in addition to the conventional printing processes.
<i>Additional units</i> may include:	<ul style="list-style-type: none"> includes any ancillary unit that is used in the production of the printed product eg dampening units, ink pumps, tanks and hoses.
<i>In-line processes</i> may include:	<ul style="list-style-type: none"> processes that are integral to this competency may include in-line operations such as: <ul style="list-style-type: none"> numbering perforating slitting embossing cutting and creasing thermal transfer scoring/top cutting die cutting/stripping gluing sprocket hole punching over printing ink jet.
<i>Design</i> may include:	<ul style="list-style-type: none"> the in-line process or operation forms an integral part of the product being produced and

RANGE STATEMENT	
	would enhance, give a specific shape or provide additional features to the work. The combination of print intricacy and in-line features would be considered to be complex.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel- and sheet-fed systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR494A Apply advanced software applications to digital production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to correctly select and use a variety of high-end software applications to efficiently produce a standard job.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the creation of a standard job, using multiple applications for individuals working in the digital printing sector.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPR385A	Apply software applications to digital production

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm client brief and job specifications	1.1. Details of the client design brief and job specifications are reviewed and clarified with client or supervisor 1.2. The type of documents are determined and production requirements are assessed 1.3. Client copy and images are assembled to conform to the design brief 1.4. A number of <i>software applications</i> are selected to produce the job
2. Arrange elements on page	2.1. Guides are set and grid is displayed to ensure artwork meets job specifications 2.2. <i>Elements</i> are created and arranged on page with precise alignment 2.3. Elements are arranged in layers to allow for effective selection and re-arrangement 2.4. Imported text or data from other applications is correctly formatted and any cross-application formatting issues are resolved 2.5. Text is formatted and flowed into document using most <i>productive technique</i> 2.6. Graphics and other elements are imported from other applications and are arranged according to the design brief
3. Produce objects	3.1. <i>Tools</i> are used to produce objects and required attributes are entered and shapes manipulated, continuing until graphic framework is finalised 3.2. Lines and curves are adjusted and edited to fit design specifications 3.3. Objects are painted, transposed and strokes and effects are scaled according to the design brief 3.4. Colours are created, edited and saved to the colour palette and saturation of colour is adjusted 3.5. Colour and appearance attributes are selected and copied as required 3.6. Gradients, fills and patterns are used to paint and blend as required by the layout and design brief
4. Edit images	4.1. Image is retouched to conform with job specifications 4.2. Colour and tone corrections are employed to conform with job specifications

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. An appropriate <i>contouring technique</i> is applied to produce the best result depending on the image</p> <p>4.4. Edited image is saved in <i>appropriate format</i> to allow for import into other applications and to conform with job specifications</p> <p>4.5. Image storage requirements are identified and employed</p>
5. Produce print-ready file	<p>5.1. File is checked for errors in accordance to client brief and job specifications</p> <p>5.2. Correct colour modes and libraries are used according to job specifications</p> <p>5.3. Sufficient image resolution is applied according to output specifications</p> <p>5.4. Bleeds and printer marks are applied</p> <p>5.5. Completed file is sent to be ripped according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills for expressing ideas and information by gaining client agreement on design layout
- collecting, analysing and organising skills for storing and retrieving all required electronic files
- planning and organising skills for outputting a proof and gaining approval by the client
- teamwork skills for maintaining the production process in association with others
- numeracy skills for determining image resolution
- problem-solving skills for checking and fixing errors when preflighting
- technical skills for using relevant hardware and software to produce a layout

Required knowledge

- different qualities between file formats
- when to use one file format opposed to another
- type of file format that are not suitable for print-based jobs
- different colour modes and the advantage and disadvantages of each
- colour libraries and how to select them within a software application
- printing processes used in digital production
- importance of considering the printing process during the design phase
- type of problems that can occur if the printing process isn't considered during the design
- different techniques that can be employed to style text productively
- ways text can be flowed throughout a document
- how guides and rulers can be adjusted
- circumstances when images are require to be edited or manipulated
- why using colour profiles is required when preparing an image for printing
- image storage capabilities
- factors that may influence the grey balance of an image

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use a variety of software applications to produce a standard layout • find and use information relevant to the task from a variety of information sources • use at least two software applications to prepare two different sets of layouts according to enterprise standards.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for digital production, such as high-end computers, output devices and layout software • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate when selecting and using a variety of high-end software applications to efficiently produce a standard job.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR388A Preflight and import complex images for digital device • ICPPP311C Develop a detailed design concept • ICPPP321C Produce a typographic image. <p>For valid and reliable assessment of this unit, evidence should be</p>

EVIDENCE GUIDE	
	gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Software applications</i> may include:	<ul style="list-style-type: none"> • Adobe Indesign • Illustrator • Photoshop • QuarkXPress and Corel • new software applications and new versions of existing products entering the market regularly.
<i>Elements</i> may include:	<ul style="list-style-type: none"> • text frames • picture boxes • complex shapes • lines or tabs.
<i>Productive techniques</i> may include:	<ul style="list-style-type: none"> • paragraph style • characters style • eyedropper tool and linking of text frames.
<i>Tools</i> may include:	<ul style="list-style-type: none"> • pen • selection • direct selection and shape tools.
<i>Contouring techniques</i> may include:	<ul style="list-style-type: none"> • using paths • layer masks • quick mask or lasso tool.
<i>Appropriate format</i> may include:	<ul style="list-style-type: none"> • file types that support transparency or paths, such as: <ul style="list-style-type: none"> • postshop designers (SD) • tagged image file format (TIFF) • encapsulated postscript (EPS).

Unit Sector(s)

Unit sector	Printing and graphic arts
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR495A Set up and use complex colour management for production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to create profiles and finger-print presses to obtain the best match across colour devices.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the individual to undertake complex colour management techniques to customise a workflow to their particular workplace.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPR387A	Use colour management for production

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Finger-print press	1.1. Suitable <i>test charts</i> are selected or produced 1.2. <i>Press</i> is optimised to <i>workplace standard</i> , in collaboration with the press operator 1.3. Test chart is printed with standard ink densities on any one of a range of stocks
2. Measure press test charts	2.1. <i>Colour measurement devices</i> are calibrated and used to measure printed test charts 2.2. <i>Multiple charts</i> are measured and results recorded 2.3. <i>Software</i> is used to average multiple measurements
3. Create and use custom press profiles	3.1. Appropriate reference file is selected to match the printed chart 3.2. Profiling software is used to create an output press profile from the averaged measurement file and profile is tested and edited if required 3.3. Profile is inserted into the <i>colour workflow</i>
4. Create and use digital device profiles	4.1. Suitable test charts are selected 4.2. The device is calibrated and the test chart is output or digitised 4.3. The test chart is measured using a colour measurement device 4.4. An appropriate reference file is selected to match the test chart 4.5. Software is used to create a profile 4.6. The device profile is inserted into the <i>colour workflow</i>
5. Maintain custom colour management workflow	5.1. Printing conditions are monitored and recorded to ensure adherence to workplace standard 5.2. <i>Digital devices</i> are regularly calibrated

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
- communication skills needed to communicate ideas and information by printing a test chart on a press
- planning, analysing and organising skills to determine printing conditions and colour management requirements before generating a proof
- teamwork skills for maintaining the production process in association with others and working independently with responsibility for others
- numeracy skills used in relation to densitometry, spectrophotometry and colour profiles
- problem-solving skills used in diagnosing and correcting colour problems
- technical skills needed for utilising software and hardware correctly when creating a profile

Required knowledge

- OHS issues to be considered when managing colour for digital production
- importance of bringing a device into a known state
- how often to calibrate devices
- what change of condition would result in the need for re-calibration
- colour measurement devices and usage
- types of proprietary software used for colour measurement
- comparison of test charts, their advantages and disadvantages
- process of determining grey balance and white points
- colour profiles and their use
- effect colour profiles have on output
- difference between input, output and display profiles
- colour management systems
- components of a colour management system
- components of a colour-managed workflow
- red, green blue (RGB) versus cyan, magenta, yellow, black (CMYK) versus mixed colour workflows
- how to implement colour management on a system
- workplace and international printing standards
- effects different substrates have on colour reproduction for proofing and final production
- how dot gain affects colour
- under colour removal (UCR) and grey component replacement (GCR)

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- create custom device profiles in a digital production workflow to enhance the match across proofs, monitors and final products
- find and use information relevant to the task from a variety of information sources
- create three custom device profiles that have been used within a colour workflow
- produce a final printed product from the colour workflow.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for colour management production, such as printing presses, raster image processors (RIPs) with colour management features, profiling software, colour output devices, densitometers and spectrometers
- evidence of colour management system maintenance procedures
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- a portfolio that demonstrates all criteria have been met
- practical demonstration by the candidate in obtaining the best match across colour devices.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended, for example:

EVIDENCE GUIDE	
	<ul style="list-style-type: none">digital production or pre-press units that require the application of colour. <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Test charts</i> may include:	<ul style="list-style-type: none"> • IT8 • European colour initiative (ECI) • printing test charts (TC) • proprietary or custom made charts.
<i>Press</i> may include:	<ul style="list-style-type: none"> • offset • web • flexography • digital.
<i>Workplace standards</i> may include:	<ul style="list-style-type: none"> • international ISO printing standards or internal workplace standards.
<i>Colour measurement devices</i> may include:	<ul style="list-style-type: none"> • densitometers or spectrophotometers, including strip reader style devices, such as: <ul style="list-style-type: none"> • Gretag • Macbeth • Xwrite.
<i>Software</i> may include:	<ul style="list-style-type: none"> • a range of industry colour applications including: <ul style="list-style-type: none"> • colour management software, e.g. Colorsync • profile creating software • scanner profiling software, e.g. Colortone Pro and Scan Open • densitometry and spectrophotometry software.
<i>Colour workflow</i> may include:	<ul style="list-style-type: none"> • software applications, e.g. InDesign and Photoshop • printer • monitors • proofers • raster image processors (RIPs) • computer to plate CTP systems • scanners • digital cameras • digital presses • wide format printers.

RANGE STATEMENT

Digital devices may include:

- input, output and display devices, such as:
 - monitors
 - printers, proofers and wide format
 - scanners and digital cameras.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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ICPPR496A Set up and produce complex digital print

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to set up for and produce complex digitally printed product. This unit incorporates the use of raster image processor (RIP) technology when outputting to digital devices including wide format.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to the production of complex digitally printed products in the commercial print, pre-press, bureau, high-end digital print or a combination of these business environments.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPR384A	Set up and produce basic digital print

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Liaise with clients	<p>1.1. A productivity analysis on a digital print system is performed to determine guidelines for most productive print method for a range of print applications</p> <p>1.2. Print services, quality expectations and print costings are communicated to clients according to enterprise procedures</p> <p>1.3. Productivity advantages and disadvantages of different digital print options are presented to clients according to enterprise procedures</p> <p>1.4. Advice is provided to clients on appropriate substrates and document finishing methods for digital print jobs according to client budget and job specifications</p>
2. Confirm job specifications	<p>2.1. Print job specifications are read and correctly interpreted from job documentation or production control system</p> <p>2.2. Availability of all job components is checked according to enterprise procedures</p> <p>2.3. Finishing requirements of job are confirmed and coordination with internal workflow and/or outsource arrangements is maintained</p> <p>2.4. Run time of job is determined and completion time is correctly estimated demonstrating consideration of other production demands</p>
3. Set up and maintain a digital print system	<p>3.1. Substrate is loaded to correct reel or sheet feeding mechanism and all substrate properties are correctly specified in the user control interface</p> <p>3.2. Delivery unit is set up on a machine and adjustments made to minor in-line processes on reel-fed machine or on-line finishing settings on sheet-fed machine</p> <p>3.3. Preventive maintenance is performed on a digital printing system to ensure optimum quality and productivity are achieved</p> <p>3.4. Common factors affecting print quality and productivity of a digital printing machine are identified and solutions implemented to minimise and/or eliminate these</p>
4. Use the complex features of RIP or front-end processor	<p>4.1. Colour adjustments are made to ensure optimum image quality and/or to match sample</p> <p>4.2. Output profiles are selected according to job</p>

ELEMENT	PERFORMANCE CRITERIA
	<p><i>specifications</i></p> <p>4.3. <i>An imposition</i> method is selected to make best use of stock</p> <p>4.4. <i>Screen ruling is adjusted to ensure optimal output of job</i></p> <p>4.5. <i>Overprints and trapping are adjusted to achieve optimum output</i></p> <p>4.6. <i>Finishing options are set up according to job specifications</i></p>
5. Perform and/or coordinate document proofing	<p>5.1. The type of <i>proofing</i> method is determined according to job specifications</p> <p>5.2. A digital proof run is conducted for client approval and conformance of proof to job specifications is confirmed</p> <p>5.3. Internal or external pre-press proofing systems operators are consulted to conduct the proof run and provide job requirement information according to enterprise procedures</p> <p>5.4. Communication between the client and proofing provider is demonstrated to ensure proof meets job specifications</p>
6. Run digital print job and/or coordinate press print run	<p>6.1. Production schedules, job specifications and enterprise procedures are observed and liaison occurs with internal and/or external production operators to determine start and duration time for the print run</p> <p>6.2. Completion time for the print run is estimated and communicated to the client and co-workers according to job specifications and enterprise procedures</p> <p>6.3. An entire digital print run is conducted according to job specifications ensuring that machine productivity and quality are monitored and rectified throughout the duration of the print job</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) in relation to operating machinery, such as safely switching off machinery before cleaning is started
- communicating ideas and information by interpreting client requirements to recommend most productive method of printing
- collecting, analysing and organising information by collecting and assessing data on printing processes to determine time and cost savings to a client
- planning and organising activities by suggesting production sequences to maximise efficiency
- teamwork skills when cooperating with external production providers and giving consideration to their production scheduling requirements
- mathematical ideas and techniques by calculating run length time of two different print solutions to determine most productive method
- problem-solving skills by recognising electronic file errors to determine a file conversion procedure
- use of technology by using RIP or font-end processor to submit files for printing

Required knowledge

- factors that influence making a decision about using a particular printing solution (run length, substrate type and application)
- cost difference between a specified job printed on a digital system and a specified traditional system, e.g. digital vs. lithographic
- quality difference between a specified job printed on a digital system and a specified traditional system, e.g. digital vs. lithographic
- difference in turnaround time of a specified job printed on a digital system and a specified traditional system, e.g. digital vs. lithographic
- print method that would be the most appropriate option for the specified print job
- measures that can be taken to ensure clients have correct procedures for providing electronic files
- main differences between digital printing and traditional printing methods
- recommendations that can be made to clients who have created an electronic file in an incompatible software application
- suggestions that could be made to clients who require a high-volume print run but need a portion of the print job immediately
- steps needed to be followed for client approval of a proof
- circumstances a job would be modified before printing
- steps involved for client approval of the print
- proof check procedures

REQUIRED SKILLS AND KNOWLEDGE

- processes involved for gaining final approval of a basic job
- adjusting colour, toner/ink coverage or density to solve problems
- need for using correct output profiles
- screen ruling shapes and sizes
- various types of binding
- advantages and disadvantages of various binding methods
- procedures followed if the binding method required by the client is not available at the workplace
- alternative options if the document size was too thick to staple
- importance of packing finished print work

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- communicate a range of digital and traditional printing solutions
- coordinate a print run that uses a combination of digital and traditional printing solutions
- conduct a digital proof run, adjust settings and ensure production speeds are attained on a digital printer
- perform preventive maintenance tasks on digital printer to maintain machine productivity
- use advanced RIP or front-end processor features
- find and use information relevant to the task from a variety of information sources
- perform preventive maintenance tasks on a digital printer according to manufacturer's specifications
- set up and print four complex colour digital printing jobs according to manufacturer's specifications and enterprise procedures.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for digital printing, such as full-colour production digital presses or wide format printers
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate when setting

EVIDENCE GUIDE	
	up and producing a complex digitally printed product.
Guidance information for assessment	<p>Holistic assessment with other digital production units relevant to the workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Productivity analysis may include:</i>	<ul style="list-style-type: none"> • production speeds for a range of print volumes and substrate types • quality standards • cost of labour • materials • maintenance and servicing.
<i>Finishing</i> may include:	<ul style="list-style-type: none"> • stapling • folding • punching • perforating • cutting • numbering • date coding.
<i>Substrates</i> may include:	<ul style="list-style-type: none"> • range of print media and paper, such as: <ul style="list-style-type: none"> • coated • uncoated • card • canvas • vinyl • plastic.
<i>Colour</i> may include:	<ul style="list-style-type: none"> • cyan, magenta, yellow, black (CMYK) • Pantone simulation.
<i>Proofing</i> may include:	<ul style="list-style-type: none"> • soft (on screen) • hard proof.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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ICPPR513C Set up for specialised flexographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up machines for specialised flexographic printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to set up flexographic printing machines for specialised colour print jobs. The individual will work outside standard job routines to conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm non-routine job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time and with minimum wastage 1.3. Availability of all job related components is checked 1.4. Proofed job is checked for conformance with job specifications
2. Select and prepare inks and solvents for non-routine job	2.1. Inks and solvents are selected according to job specifications and end-user requirements 2.2. Quality and suitability of inks and solvents are checked and appropriate action is taken 2.3. Inks and solvents are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 2.4. Correct colour and weight/volume of ink are mixed and viscosities checked and modified according to the press requirements and non-routine job specifications 2.5. Ink formula and approved colour draw downs are appropriately recorded 2.6. Inks and solvents are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions and the relevant hazardous liquids storage regulations
3. Set up machine for specialised flexographic printing	3.1. Flexographic plate cylinders are installed and register adjustments centred OR 3.2. Sleeves are installed in press and register adjustments made OR 3.3. Plate mounting sheets are mounted on cylinders in press and register adjustments made 3.4. Plate cylinders are gauged up or pre-set to impression 3.5. Anilox rollers are selected to suit individual colour and plate reproduction requirements for each unit 3.6. Appropriate ink metering system is selected for each unit 3.7. Inking system is set up and roller nips/blades are set correctly 3.8. Ink circulation is maintained at correct level

ELEMENT	PERFORMANCE CRITERIA
	<p>3.9. Viscosities are adjusted according to job specifications</p> <p>3.10. Air volume and drier temperatures are selected to suit inks, <i>substrate</i>, solvents and according to job specifications</p> <p>3.11. Air volume is adjusted between colours to maximise drying and minimise air overspill</p>
4. Conduct proof run	<p>4.1. Material to be used for proof is organised correctly</p> <p>4.2. Press is set up and operated according to OHS guidelines</p> <p>4.3. Print impressions are set to minimum kiss impression</p> <p>4.4. Web tensions are correctly set at unwind, between stations and rewind</p> <p>4.5. The print is checked for register</p> <p>4.6. Drying is checked as sufficient to key ink to the substrate</p> <p>4.7. The viscosities are adjusted to obtain the correct colour at proof speed</p> <p>4.8. The viscosities are adjusted to obtain the correct colour at proof speed</p>
5. Organise proof inspection and/or testing	<p>5.1. Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>5.2. Production does not commence without client approval or authority where appropriate</p>
6. Troubleshoot machinery and material problems	<p>6.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>6.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>6.3. Changes are monitored to confirm improvement to production efficiency</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and advising the client (internal or external) about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by evaluating the special job specifications when determining production scheduling
- teamwork when cooperating with other workers to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by evaluating special job specifications and adjusting machinery to produce specialised print job
- use of technology by evaluating the capacity of individual machines to produce the specialised job specifications

Required knowledge

- job specifications
- production problems that could eventuate by not reading and understanding the job specifications
- responsible person to discuss any production problems
- OHS factors that need to be considered when mounting and proofing flexographic plates
- most common cause of photopolymer plates crazing on the image side
- importance of resiliency of the printing plate
- main advantage of using thin photopolymer plates in process printing
- faults that may be detected on new plates
- type of solvents that should be used on photopolymer plates
- meaning of the term V-block mounting
- V-block mounting
- benefits of optical mounting
- purpose of binding plates after mounting
- possible print faults that could be eliminated by using cushion mount
- OHS factors that need to be considered when installing printing cylinders or sleeves
- precautions that should be taken to ensure that the plates and cylinders or sleeves

REQUIRED SKILLS AND KNOWLEDGE

- are not damaged during installation
- checks to be made to ensure plates and cylinders or sleeves have been installed correctly
- OHS precautions that must be observed when webbing up the machine
- positioning of the reel
- pulling the substrate into the machine
- result of insufficient unwind tension
- result of excessive unwind tension
- function of the "Dancer" roller on a web machine
- function of the PIV unit
- result of adjustments to the PIV
- function of the lay-on roller
- effect of excessive lay-on roller pressure
- effect of the web not being spliced correctly
- workings of the particular web viewing device
- OHS precautions that must be observed when setting up the delivery
- control of the web in the rewind unit
- result of incorrect rewind tension
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- use of air blast play in the delivery of sheets
- OHS precautions that must be observed when preparing inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- main function of a pigmented extender used in flexographic printing
- effect of adding plasticisers to flexographic inks
- other additives use in flexographic inks
- range in seconds for Zahn cup measurements
- effect foaming has in a Zahn cup when measuring the ink viscosity
- recommended pH range when printing with aqueous inks
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- OHS factors that need to be considered when setting up the machine
- advantage of centring all machine controls
- checks that should be made on cylinders and gears
- checks that should be performed prior to cylinder or sleeve installation
- angle that the chamber blades should be set
- main advantage of gauging up and dry register prior to printing a job

REQUIRED SKILLS AND KNOWLEDGE

- cell count of the anilox roller that is used when printing solids
- use of water treatment additives in a central impression drum and chill roller coolant system
- advantages of laser engraved ceramic anilox rollers
- things relating to the anilox roller that a roller scope will measure
- reasons for anilox wear
- type of job that would be printed using a hexagonal cell configuration
- recommended web temperature when printing polypropylene film
- method of drying that is used when printing on polythene by the flexographic process
- drying rate of liquid inks
- drying of aqueous inks
- operating range of UV lamps
- need to graduate the drying speeds of each progressive colour, so that first-down colours dry faster the subsequent colours
- in flexographic printing, the reason the colour strength increases as the press speed increases
- cause of a decrease in web tension
- result of increasing rewind tension after the roll has been partially rewound
- major cause of a telescopic roll
- print characteristics that are related to excessive printing pressure
- causes of picking when printing multicoloured work
- print faults that result from using an over-reduced ink
- problems that can cause lateral streaks showing up in uneven printing
- causes of moire patterns when printing by the flexographic process
- result of air being trapped under mounted plates
- instrument used to identify retained solvent trapped in the print
- purpose of taking Dyne readings
- purpose of the crinkle test when testing an ink
- result if an excessive final drying temperature was used when printing polypropylene film
- property of ink that can be adjusted to reduce dot gain
- effect of using the ink returning from the ink fountain when checking the viscosity for ink whilst using ink pumps
- problems that result from the excessive use of slow solvents
- effect of the "yield value" of ink on the ink transfer of halftone dots
- reason why laminating inks once printed appear dull and easy to scratch
- result of excessive print area tension
- problems which the printer may associate with cold seals
- machine manuals, safety and other documentation that are relevant to this task, where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up flexographic printing machines for specialised print jobs that require a certain amount of problem solving and experimentation with the substrate and press settings. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a flexographic printing machine for a specialised job on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to the manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • flexographic press.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE

assessment

industry sector, workplace and job role is recommended, for example:

- ICPPR413C Set up for complex flexographic printing
- ICPPR314C Produce complex flexographic printed product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 4 or more colour printing, including standard and special colours.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> 4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel delivery systems.
<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR521C Set up for specialised gravure printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for specialised gravure printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to set up gravure printing machines for specialised print jobs. The individual will work outside standard job routines to conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm specialised job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly in minimum time with minimum wastage 1.3. Availability of all job related components is checked
2. Plan and carry out specialised set up	2.1. <i>Specialised</i> job specifications are identified and analysed 2.2. Special set up requirements are determined 2.3. Specialised set up is completed in minimum time with minimum wastage
3. Set up reels	3.1. Unwind and rewind reels are set up and adjusted according to job specifications 3.2. Webbing procedures are carried out according to job specifications 3.3. Web-control system is set up, evaluated and adjusted according to job specifications 3.4. Reels are spliced/joined according to job specifications 3.5. Printed web viewing devices are set up, evaluated and adjusted according to job specifications 3.6. The folder and sheeter are set up, evaluated and adjusted according to job specifications 3.7. Set off/marketing prevention devices are set up, evaluated and adjusted according to job specifications
4. Select and prepare inks and additives	4.1. <i>Inks</i> , dyes or additives are evaluated with reference to specialised requirements 4.2. Inks, dyes or additives are selected according to job specifications 4.3. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared according to job specifications and the printing process 4.5. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded 4.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/

ELEMENT	PERFORMANCE CRITERIA
	supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
5. Set up machine for specialised gravure printing	5.1.Gravure cylinders are selected, installed, set up and adjusted according to job specifications 5.2.Impression roller is set up and adjusted according to job specifications 5.3.Inking system/doctor blade is set up and adjusted according to the gravure process and job specifications 5.4.Drying system is set up and adjusted according to job specifications
6. Conduct specialised proof run	6.1.Material to be used for proof is organised correctly 6.2. Machine is operated according to manufacturer's specifications and enterprise procedures to produce a specified proof 6.3.Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures 6.4.Production does not commence without client approval or authority where appropriate 6.5.Results are interpreted and evaluated with adjustments carried out according to product and machine specifications
7. Troubleshoot machinery and material problems	7.1.Corrective or preventive action is recommended and implemented where appropriate 7.2.Changes are communicated to relevant personnel in a logical and easily understood manner 7.3.Changes are monitored to confirm improvement to production efficiency 7.4.Ongoing problems are reported according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to internal or external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating cylinder position, pressures and substrate requirements
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- responsible person you would discuss any production problems
- OHS precaution that must be observed when installing printing cylinders on the machine
- optimum print sequence
- visual aid on the cylinder that identifies the colour of ink to be used
- precautions that are taken to ensure that the cylinders are not damaged during installation
- OHS precautions that must be observed when webbing up the machine
- determining the position of the reel
- effect if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- effect if the web is not spliced correctly
- operation of the particular web viewing device
- principle of ESA roller operation on the gravure printing machine
- type of substrate that should be used on the ESA roller
- OHS precautions that must be observed when setting up the delivery

REQUIRED SKILLS AND KNOWLEDGE

- control of the web in the rewind unit
- result of incorrect rewind tension
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- problems that could be attributed to a blunt knife when sheeting
- use of air blast play in the delivery of sheets
- OHS precautions that must be observed when preparing inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- additives and their use in gravure inks
- range in seconds for Zahn cup measurements
- effect foaming has in a Zahn cup when measuring the ink viscosity
- reason pigmented ink is brought to operating temperature before correcting the viscosity
- reason for these essential checks
- advantage of using automatic viscosity controllers
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- OHS factors that need to be considered when setting up the machine
- the function of chill rollers on a machine
- main advantage of gauging up and dry register prior to printing a job
- result of excess printing pressure
- determining the pressure to be applied to the doctor blade
- print faults that could be caused by excessive overspill of air from the inter-colour drier
- recommended air ratio for efficient inter-colour drying
- advantages of using high velocity air in the drying system
- the cause of the doctor blade wearing on a gravure printing unit
- options for reducing the wear of the doctor blade
- determining the optimum make ready speed for the job
- communicating the steps involved in make ready to other team members
- need to grade the drying speeds of each progressive colour, so that first-down colours dry faster the subsequent colours
- cause of a decrease in web tension
- result of increasing rewind tension after the roll has been partially rewound
- major cause of a telescopic roll
- test methods of metallised film to find out which is the correct side on which to print
- measuring the metallised surface for coating thickness

REQUIRED SKILLS AND KNOWLEDGE

- effect of annealing on aluminium foil
- purpose of using thermal imaging face stocks
- metallising substrates
- client requirements for bar codes
- print characteristics that are related to excessive printing pressure
- causes of picking when printing multicoloured work
- print faults that result from using an over-reduced ink
- causes of moire patterns when printing by the gravure process
- instrument used to identify retained solvent trapped in the print
- purpose of taking Dyne readings
- purpose of the crinkle test when testing an ink
- print faults that would result from a worn doctor blade
- effect of using the ink returning from the ink fountain when checking the viscosity for ink whilst using ink pumps
- problems that result from the excessive use of slow solvents
- reason why laminating inks once printed appear dull and easy to scratch
- result of excessive print area tension
- problems which the printer may associate with cold seals
- responsibility for the final say in the "OK" of the job
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up gravure printing machines for specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a gravure printing machine for a specialised job on TWO occasions (if possible using different substrates) according to manufacturer's specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • gravure printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR322C Produce complex gravure printed

EVIDENCE GUIDE	
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| | <p>product</p> <ul style="list-style-type: none">• ICPPR421C Set up for complex gravure printing. |
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in 3 or more colour printing, including standard and special colours.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of viscosity controls, densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of stack, in-line and central impression printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR531C Set up for specialised lithographic printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for specialised lithographic printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to evaluate set up options and then set up either wide or narrow reel or sheet-fed lithographic printing machines for specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm specialised job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Availability of all job related components is checked
2. Plan and carry out specialised set up	2.1. <i>Specialised</i> job specifications are identified and analysed 2.2. Special set up requirements are determined 2.3. Specialised set up is completed in minimum time with minimum wastage
3. Set up reel system (OR Element 4)	3.1. Unwind and rewind reels set up options are analysed and set up is completed and adjusted according to job specifications 3.2. Webbing procedures are carried out according to job specifications 3.3. Web-control system is set up, options are analysed and set up is completed and adjusted according to job specifications 3.4. Reels are spliced/joined according to job specifications 3.5. Printed web viewing devices are set up, evaluated and adjusted according to job specifications 3.6. The folder and sheeter are set up and adjusted according to job specifications 3.7. Set off/marketing prevention devices are set up and adjusted according to job specifications
4. Set up sheet system (OR Element 3)	4.1. Feeder and delivery sections are set up, options are analysed and set up is completed and adjusted according to job specifications 4.2. Sheet pick-up, transportation, control and transfer systems are set up, adjusted and evaluated according to job specifications 4.3. <i>Substrate</i> is removed from process according to job specifications 4.4. Set off/marketing prevention devices are set up, adjusted and evaluated according to job specifications
5. Select and prepare inks and additives	5.1. Colour sequence for the job is considered and confirmed 5.2. <i>Inks</i> , dyes or additives are evaluated with reference to specialised requirements

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Inks, dyes or additives are selected according to job specifications</p> <p>5.4. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>5.5. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the printing process and job specifications</p> <p>5.6. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded</p> <p>5.7. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
6. Set up machine for specialised lithographic printing	<p>6.1. Plate cylinder is set up, evaluated and adjusted according to job specifications</p> <p>6.2. Lithographic plate is selected and prepared for installation</p> <p>6.3. Plates are correctly mounted according to job specifications and in a safe manner</p> <p>6.4. Blanket and blanket cylinder are set up, evaluated and adjusted according to job specifications</p> <p>6.5. Impression cylinder is set up, evaluated and adjusted according to job specifications</p> <p>6.6. Inking system is set up, evaluated and adjusted according to the lithographic process and job specifications</p> <p>6.7. Dampening system is set up, evaluated and adjusted according to job specifications</p> <p>6.8. Drying system is set up, evaluated and adjusted according to job specifications</p>
7. Conduct specialised proof run	<p>7.1. Material to be used for proof is organised correctly</p> <p>7.2. <i>Machine</i> is operated according to manufacturer's specifications and enterprise procedures to produce a specified proof</p> <p>7.3. Specialised proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>7.4. Production does not commence without client approval or authority where appropriate</p> <p>7.5. Results are interpreted and evaluated with</p>

ELEMENT	PERFORMANCE CRITERIA
	adjustments carried out according to product and machine specifications
8. Troubleshoot machinery and material problems	8.1. Corrective or preventive action is recommended and implemented where appropriate 8.2. Changes are communicated to relevant personnel in a logical and easily understood manner 8.3. Changes are monitored to confirm improvement to production efficiency 8.4. Ongoing problems are reported according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- responsible person you would discuss any production problems
- problem that can result from the plate cylinder not being cleaned prior to plate fitting
- effect if the plate is over tensioned during fitting
- faults that could result from a plate being under tensioned
- need for accurate plate bending on a web-fed machine
- considerations that would have to be made when deciding the colour sequence
- visual aid on the plate that identifies the colour of ink to be used
- OHS precautions that must be observed when webbing up the machine
- determining the position of the reel
- effect if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- determining the position of the bustle wheels
- effect if the web is not spliced correctly
- operation of the particular web viewing device
- OHS factors that need to be considered when setting up the sheet transportation

REQUIRED SKILLS AND KNOWLEDGE

and delivery systems

- cause of more than one sheet to be picked up in the feeder
- need for accurate feeder set up
- determining the position of the sheet prior to being transferred to the printing unit
- determining which front lays to use
- type of substrate that would require additional front lays to be engaged
- need for additional front lays when printing this type of substrate
- OHS precaution that must be observed when setting up the delivery
- controlling the web in the rewind unit
- function of a slitter on a web machine
- cause of the web to jam up in the folder
- need to disengage the folder if sheeting
- problems that could be attributed to a blunt knife when sheeting
- safety feature that is in the delivery system if the web jams up
- fold that are always made with the grain of the web
- type of folder that folds the web in half in the direction of the web grain
- remedial steps that can be taken if there is a possibility of the ink marking in the folder
- main reason for having a silicone applicator on a web machine
- OHS precaution that must be observed when removing sheets from the delivery
- cause of sheets to be delivered incorrectly
- adjustments that would be necessary if changing from lightweight to heavyweight stocks
- sheet release into the delivery
- problems resulting from the excessive use of anti set off spray powder
- cause of printed sheets to set off in the delivery
- reduction of the possibility of set off in the delivery
- fault that may be created if there is excess vacuum on the slow-down wheels
- OHS precautions that must be observed when preparing inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- additives and their use in gravure inks
- use of a spectrophotometer to assess the colour of an ink
- formula for calculating the correct quantity of lithographic ink
- print fault that will occur if excessive driers are mixed into the ink
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- OHS factors that need to be considered when setting up the machine

REQUIRED SKILLS AND KNOWLEDGE

- checks that should be made on the plate prior to fitting
- required plate packing
- normal printing pressure required between plate and blanket
- determining the correct printing pressure between blanket and stock
- ideal blanket surface condition
- achieving the correct blanket tension when fitting a new blanket
- print faults that can occur if the impression cylinder is not maintained
- order that eccentric or concentric roller adjustments should be made
- width of the contact stripe between two rollers when setting the rollers
- ink duct setting
- ideal ink duct sweep setting
- recommended degrees shore hardness for bare back and conventional dampeners
- conductivity of the fountain solution
- need to constantly check the conductivity of the fountain solution
- changes to the amount of fountain solution across the plate surface
- need to adjust the fountain solution laterally
- reasons for not engage the perfecting unit
- main reason for blistering on a heatset machine
- effect of the oven on the ink
- function of chill rollers on a web machine
- types of ink drying/curing systems
- operation of the true inch function fitted to some machines
- problems that may cause the machine to keep stopping
- checks that are necessary prior to engaging the impression
- checks that are performed when running the machine
- effect the position of certain guards has on the operation of the machine
- communicating the steps involved in operating the machine to other team members
- aids that are available for the testing of the machine proof
- tests that are necessary for this job
- testing location
- function of a polarisation filter in a densitometer
- ideal conditions for inspecting the proof
- need to use visual aids on the printed sheets
- acceptable wet trap value range for lithographic inks
- an indication of optimum solid ink density in the absence of a proof
- result of low solid ink density and excessive dot gain
- methods that are available to check and adjust ink colour and consistency
- adjustments that may have caused mis-register
- adjustments that are made to position the image laterally
- adjustments that are made to position the image circumferentially

REQUIRED SKILLS AND KNOWLEDGE

- adjustments that are made to position the image diagonally
- effect of changing the colour sequence on the wet trap value
- procedure to lengthen the print length on this type of press
- procedure to shorten the print length on this type of press
- difference between mechanical and optical dot gain
- cause of excessive mechanical dot gain
- responsibility for the final say in the "OK" of the job
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up either wide or narrow reel or sheet-fed lithographic printing machines for specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a lithographic printing machine for a specialised job on TWO occasions (if possible using different substrates and sheet sizes if sheet-fed and if possible including at least TWO in-line processes) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • lithographic printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none">• ICPPR332C Produce complex lithographic printed product• ICPPR431C Set up for complex lithographic printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> wide range of inks commonly used in printing.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of densitometers and/or spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of single sheet, stream-fed or reel-fed printing machines with manual, semi-automated, fully automated or computerised process control. Includes machines with digitally imaged plates.
<i>Design</i> may include:	<ul style="list-style-type: none"> complex graphics and text. Critical "tight" registration, fit and position, registration for quality print jobs.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR541C Set up for specialised pad printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for specialised pad printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to set up pad printing machines for multicoloured or specialised print jobs. The individual will set up manual pre and post-treatment processes and conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm specialised job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Availability of all job related components is checked
2. Plan and carry out specialised set up	2.1. <i>Specialised</i> job specifications are identified and analysed 2.2. Specialised set up requirements are determined 2.3. Specialised set up is completed in minimum time with minimum wastage 2.4. Appropriate tampons are selected according to job specifications 2.5. Tampons are secured into <i>machine</i>
3. Conduct specialised set up of fixtures onto machine bed or conveyor	3.1. Appropriate fixtures are selected and secured to xy table or conveyor jig plates 3.2. Height of machine bed is adjusted to suit size of object to be printed 3.3. Xy table of machine bed is adjusted to suit position of image on object
4. Select and prepare inks and additives	4.1. <i>Inks</i> and additives are evaluated according to job specifications 4.2. Inks and additives are selected according to job specifications 4.3. Inks and additives are prepared according to OHS requirements and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct colour and weight/volume of ink are mixed and prepared according to the requirements of the printing process and job specifications 4.5. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded 4.6. Inks and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life
5. Set up machine for specialised pad printing	5.1. Plate holders are set up and adjusted for register according to job specifications 5.2. Appropriate plates and plate holders are selected and plates are secured into plate holders

ELEMENT	PERFORMANCE CRITERIA
	<p>5.3. Tampons are set up, evaluated and adjusted according to job specifications</p> <p>5.4. Spatula and doctor blade are set up, evaluated and adjusted according to the requirements of the pad printing process and job specifications OR</p> <p>5.5. Ink cups are set up, evaluated and adjusted according to job specifications</p>
6. Set up pre- and post-treatment processes	<p>6.1. In-line loading is set up according to specialised object requirements and job specifications</p> <p>6.2. In-line drying is set up according to specialised object requirements and job specifications</p> <p>6.3. In-line ejection is set up according to specialised object requirements and job specifications</p>
7. Conduct specialised proof run	<p>7.1. Material to be used for proof is organised correctly</p> <p>7.2. Machine is operated according to manufacturer's specifications and enterprise procedures to produce a specified proof</p> <p>7.3. Proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>7.4. Production does not commence without client approval or authority where appropriate</p> <p>7.5. Results are interpreted and evaluated with adjustments carried out according to product and machine specifications</p>
8. Troubleshoot machinery and material problems	<p>8.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>8.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>8.3. Changes are monitored to confirm improvement to production efficiency</p> <p>8.4. Ongoing problems are reported according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, cliché and tampon position, and pressures
- problem-solving skills by recognising proofing faults and determining adjustments to meet job specifications
- use of technology by using monitoring equipment and making adjustments

Required knowledge

- different substrate groups and suggest the correct ink type for each group
- sub-groups of plastic in relation to ink selection
- adjustment of process colour inks for correct colour balance
- methods of improving opacity of a light coloured ink on a dark substrate
- correct pad shape for these (given) applications
- effect that pad shape and hardness have on print quality
- effect that can commonly be seen at the contact point of the nipple of a pad in a large solid print and how can it be avoided
- preparation of a new pad prepared for its first printing
- correct plate type for these (given) applications
- difference between steel and photopolymer plates for process printing
- reasons for mis-registered images, and how can they be corrected
- OHS concerns that are there when setting presses and doctor blades
- adjustments to the machine so that the doctor blade is operating correctly
- effect of a damaged doctor blade
- types of doctor blades and explain their applications
- OHS concerns that are there when pre- and post-treating substrates
- common pre- and post-treatment methods for different substrates
- importance of these treatments
- causes and solutions for common print problems (eg hairlines around image, loss

REQUIRED SKILLS AND KNOWLEDGE

of density in the centre of a solid image, fine lines of ink running through image, distortion of image, picking up ink from substrate by subsequent pads, washed out images, loss of fine lines in images, inconsistent colour)?

- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up pad printing machines for specialised print jobs. The individual will set up manual pre- and post-treatment processes and conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a machine for specialised pad printing on TWO occasions (if possible on different substrates) to meet manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a pad printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPPR342C Produce complex pad printed product

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• ICPPR441C Set up for complex pad printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Machines</i> may include:	<ul style="list-style-type: none"> a range of pad printing machines with manual, semi-automated, fully automated or computerised operation.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard inks commonly used in multicoloured printing.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of visual colour assessment to match basic standard colours and/or Pantone shades under controlled lighting conditions.
<i>Design</i> may include:	<ul style="list-style-type: none"> multicoloured, complex graphics and text. Critical tight registration, fit and position.
<i>Pre- and post-treatment processes</i> may include:	<ul style="list-style-type: none"> range of pre- and post-treatment techniques used in pad printing.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> manual handling.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR551C Set up for specialised relief printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for specialised relief printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to set up reel- or sheet-fed plate, cylinder or rotary printing machines for specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm specialised job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Availability of all job related components is checked
2. Plan and carry out specialised set up	2.1. <i>Specialised</i> job specifications are identified and analysed 2.2. Specialised set up requirements are determined 2.3. Specialised set up is completed in minimum time with minimum wastage
3. Set up reel system (OR Element 3)	3.1. Unwind and rewind reels are set up, evaluated and adjusted according to job specifications 3.2. Webbing procedures are carried out and web-control system is set up, evaluated and adjusted according to job specifications 3.3. Reels are spliced/joined according to job specifications 3.4. Printed web viewing devices are set up, evaluated and adjusted according to job specifications 3.5. Folder and sheeters are set up, evaluated and adjusted according to job specifications 3.6. Set off/marketing prevention devices are set up, evaluated and adjusted according to job specifications
4. Set up sheet system (OR Element 2)	4.1. Feeder and delivery sections are set up, evaluated and adjusted according to job specifications 4.2. Sheet pick-up and transportation system is set up, evaluated and adjusted according to job specifications 4.3. Transfer and control systems are set up, evaluated and adjusted according to job specifications 4.4. <i>Substrate</i> is added to and removed from process according to job specifications 4.5. Set off/marketing prevention devices are set up, evaluated and adjusted according to job specifications
5. Evaluate, select and prepare inks and additives	5.1. <i>Inks</i> , dyes or additives are evaluated according to end-user requirements and job specifications 5.2. Inks, dyes and additives are selected according to end-user requirements and job specifications 5.3. Inks, dyes and additives are prepared according to

ELEMENT	PERFORMANCE CRITERIA
	<p>OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>5.4. Correct colour and weight/volume of ink are mixed and prepared according to the requirements of the printing process and job specifications</p> <p>5.5. Formulation of the ink, <i>colour match</i> and the approved colour are appropriately recorded</p> <p>5.6. Inks, dyes and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and prolong shelf life</p>
6. Set up machine for specialised relief printing	<p>6.1. Appropriate relief plates are selected and secured to the <i>machine</i></p> <p>6.2. Relief polymer plates/forme are set up and adjusted according to job specifications (platen)</p> <p>6.3. Relief polymer cylinders are set up and adjusted according to job specifications (platen)</p> <p>6.4. Impression is set up and adjusted according to job specifications (platen and rotary)</p> <p>6.5. Inking system is set up and adjusted according to the requirements of the relief process and job specifications (platen and rotary)</p> <p>6.6. Drying system is set up and adjusted according to job specifications</p>
7. Conduct specialised proof run	<p>7.1. Material to be used for specialised proof is organised correctly</p> <p>7.2. Machine is operated according to manufacturer's specifications and enterprise procedures to produce a specialised proof</p> <p>7.3. Specialised proof is visually inspected and/or tested or laboratory testing is organised according to enterprise procedures</p> <p>7.4. Production does not commence without client approval or authority where appropriate</p> <p>7.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications</p>
8. Troubleshoot machinery and material problems	<p>8.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>8.2. Changes are communicated to relevant personnel in</p>

ELEMENT	PERFORMANCE CRITERIA
	a logical and easily understood manner 8.3.Changes are monitored to confirm improvement to production efficiency 8.4.Ongoing problems are reported according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job brief and providing advice to clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about printing process, machine specifications and performance to calculate appropriate adjustments for job
- planning and organising activities by evaluating the special job specifications when determining production scheduling
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating substrate requirements, plate position and pressures
- problem-solving skills by recognising proofing faults and determining adjustments to meet job specifications
- use of technology by using monitoring equipment and making adjustments

Required knowledge

- need to ensure that the job specifications are read and properly understood
- production problems that could eventuate by not reading and understanding the job specifications
- responsible person to discuss any production problems
- importance of the hardness of the printing plate
- faults that may be detected on new plates
- type of solvents that should be used on photopolymer plates
- meaning of the term V-block mounting
- V-block mounting
- the purpose of binding plates after mounting
- checks that are performed prior to cylinder installation
- importance of keeping machine frames and unit slides cleaned
- OHS precaution that must be observed when installing printing cylinders in the machine
- optimum print sequence
- visual aid on the plate that identifies the colour of ink to be used
- precautions that were taken to ensure that the plate/cylinders were not damaged during installation
- OHS precaution that must be observed when webbing up the machine
- determining the position of the reel

REQUIRED SKILLS AND KNOWLEDGE

- effect if the brake tension is not set correctly
- function of the "Dancer" roller on a web machine
- function of nip rollers
- effect if the web is not spiced correctly
- major OHS concerns when setting up the sheet transportation system
- cause of more than one sheet to pick up in the feeder
- essential accurate feeder set up
- position of the sheet prior to being transferred to the printing unit
- determining which front lays to use
- type of substrate that would require additional front lays to be engaged
- need for additional front lays when printing this type of substrate
- OHS precaution that must be observed when setting up the delivery
- control of the in the rewind unit
- function of a slitter on a web machine
- problems that could be attributed to a blunt knife when sheeting
- remedial steps that can be taken if there is a possibility of the ink marking in the rewind
- OHS precaution that must be observed when removing sheets from the delivery
- cause of sheets to be delivered incorrectly
- adjustments that would be necessary if changing from lightweight to heavyweight stocks
- sheet release into the delivery
- problems resulting from the excessive use of anti set off spray powder
- cause of printed sheets to set off in the delivery
- reducing the possibility of set off in the delivery
- air blast assistance to sheet delivery
- OHS precautions that must be observed when preparing inks and additives
- details that are necessary to check an ink's suitability for the printing process
- special end-use requirements that may be necessary
- additives and their use in inks
- use of a spectrophotometer to assess the colour of an ink
- formula for calculating the correct quantity of lithographic ink
- print fault that will occur if excessive driers are mixed into the ink
- precautions that you observe to minimise waste when preparing the ink
- shelf life of most inks
- conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- major OHS concerns when setting up the machine
- level of packing required in the tympan
- amount of printing pressure required

REQUIRED SKILLS AND KNOWLEDGE

- ideal condition of the tympan
- achieving the correct top sheet tension when fitting a new tympan
- print faults that can occur if the tympan is not tensioned correctly
- order eccentric or concentric roller adjustments should be made
- width of the contact stripe between two rollers when setting the rollers
- ink duct setting
- ideal ink duct sweep setting
- recommended degrees shore hardness for forme rollers
- main reason for blistering on a heatset machine
- types of ink drying/curing systems
- curing the ink using the drying unit
- operation of the true inch function fitted to some machines
- problems that may cause the machine to keep stopping
- checks that are necessary prior to engaging the impression
- checks that are performed when running the machine
- the effect the position of certain guards has on the operation of the machine
- communicating the steps involved in operating the machine to other team members
- aids that are available for the testing of the machine proof
- tests that are necessary for this job
- testing location
- function of a polarisation filter in a densitometer
- ideal conditions for inspecting the proof
- need to use visual aids on the printed sheets
- cause of a halo effect on the image
- methods that are available to check and adjust ink colour and consistency
- adjustments that may have caused mis-register
- adjustments that are made to position the image laterally
- adjustments that are made to position the image circumferentially
- effect of changing the colour sequence on the final colour cast
- procedure to lengthen the print length on this type of press
- procedure to shorten the print length on this type of press
- difference between mechanical and optical dot gain
- cause of excessive mechanical dot gain
- responsibility for the final say in the "OK" of the job
- in-line processes that can be used in specialised pad printing
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • set up reel- or sheet-fed platen, cylinder or rotary printing machines for specialised print jobs. The individual will conduct a proof run and adjust settings to ensure production speeds are attained • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • demonstrate an ability to find and use information relevant to the task from a variety of information sources • set up a relief printing machine for specialised printing on TWO occasions (if possible using different substrates and if possible including at least TWO in-line processes) according to manufacturer's and job specifications, enterprise procedures and the Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • reel- or sheet-fed platen, cylinder or rotary printing machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none">• ICPPR352C Produce complex relief printed product• ICPPR451C Set up for complex relief printing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	<ul style="list-style-type: none"> specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel, and large and small sheet handling systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of inks commonly used in colour printing, including standard and special colours.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> use of densitometers and spectrophotometry.
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of platen, cylinder and rotary machines with manual, semi-automated, fully automated or computerised process control.
<i>Design</i> may include:	<ul style="list-style-type: none"> 3 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPPR552A Manage digital production workflow

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage the digital workflow from concept stage to completion and delivery. It focuses on the management of a digital workflow that could include customer service, job generation, printing, finishing and dispatch.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who are responsible for managing and optimising a digital workflow in the commercial print, pre-press, bureau, high-end digital print or a combination of these business environments.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan a production workflow for a digital print product	1.1. The stages of the <i>production workflow</i> are identified to determine sequencing 1.2. Workflow is sequenced to obtain optimum production efficiency and <i>job quality</i> 1.3. New sequences that are required for non-standard jobs are tested 1.4. Workflow is optimised for continued improvement
2. Manage resources and time	2.1. <i>Resources</i> relevant to digital production are identified, evaluated and incorporated to achieve the required outcome 2.2. Time management is integrated into project planning and monitoring 2.3. Human resources are incorporated and supported within the project framework to achieve the required outcome 2.4. Teamwork elements are identified and developed to achieve the required outcome
3. Determine and manage budgets	3.1. <i>Estimation</i> of costs are identified and applied to a range of digital products 3.2. Budget plans are established and checked against estimations to deliver accurate costing 3.3. Estimating practices and pricing models are determined and implemented to deliver the required outcome within designated timeframes and costs 3.4. Job costs are determined, documented and monitored continuously to comply with business commitments and legal obligations 3.5. Business transactions are undertaken ethically and according to law 3.6. Workplace budget estimates and expenditure are reviewed and documented to assist in future business dealings

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for expressing ideas and information by documenting recommendations to optimise the digital production process
- collecting, analysing and organising skills for reviewing the production schedule and evaluating its effectiveness
- planning and organising skills for determining the most effective production processes
- teamwork skills for working with colleagues over changes to production
- numeracy skills for managing budgets
- problem-solving skills for finding solutions to production problems
- technical skills for evaluating machine operations and making changes to improve the production process

Required knowledge

- job requirements for a specific production processes
- methods used to identify special production requirements and possible problems
- criteria used to determine the availability of machines, materials and labour
- OHS concerns that need to be considered when planning production
- common causes of failure in each production area that need to be monitored
- procedures that can be implemented to minimise the effects of these
- techniques used to monitor production schedules
- criteria used for revising production schedules to take into account customer requirements and job complexity
- information that needs to be monitored so as to maintain standards
- individuals involved in monitoring quality standards
- procedures used to make improvements that affect quality standards
- importance of team participation
- reason for determining the skill level of workers
- how the skill levels of individual workers are determined
- costing/estimating methods
- factors that might be adjusted in estimations if they consistently do not match costs
- importance of keeping accurate production records
- how often to review production records and actual costs
- computerised production monitoring systems used to accurately assess costs

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- manage and continually improve a digital production workflow
- accurately manage a budget.

Context of and specific resources for assessment

Assessment must ensure:

- that conditions are typical ambient conditions found in the workplace
- access to relevant facilities, equipment and materials used for digital printing
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence
- third party workplace reports of on-the-job performance by the candidate
- practical demonstration by the candidate managing the digital workflow.

Guidance information for assessment

Holistic assessment with other digital production units relevant to the workplace and job role is recommended, for example:

- business management units that could be applied in the digital production sector.

For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production workflow</i> may include:	<ul style="list-style-type: none"> • customer service • job generation • printing • finishing • dispatch.
<i>Job quality</i> may include:	<ul style="list-style-type: none"> • client specifications/requirements • enterprise standards • industry standards.
<i>Resources</i> may include:	<ul style="list-style-type: none"> • employees • printing and finishing equipment • digital devices, such as computers, printers, proofers and scanners • high-end layout and graphic software applications • raster image processors (RIPs) and front-end processors.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		

ICPSP211C Reclaim screen automatically

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to automatically reclaim screens.
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Application of the Unit

Application of the unit	This unit requires the individual to reclaim screens using automatic cleaning equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.	

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare chemicals	1.1. <i>Ink and stencil type</i> are correctly identified and screen is assessed for suitability to be reclaimed 1.2. Screen reclamation <i>chemicals</i> are selected and prepared according to manufacturer's/supplier's specifications 1.3. Appropriate safety gear is selected and worn according to manufacturer's/supplier's specifications and OHS requirements
2. Maintain and adjust automatic cleaning equipment	2.1. Automatic cleaning equipment is inspected and routine user maintenance is carried out according to manufacturer's/supplier's specifications and <i>enterprise procedures</i> 2.2. Automatic cleaning equipment is adjusted to suit ink system, <i>mesh type</i> and frame size
3. Wash screen	3.1. Screens are washed using a pressure gun or automatic <i>machine</i> in a suitably ventilated area with the required extraction system 3.2. Stains and hazes are removed using appropriate chemicals according to manufacturer's/supplier's specifications and OHS requirements 3.3. Screens are checked for damage and any defects are reported and/or rectified according to enterprise procedures
4. Store screen	4.1. Screens are correctly identified and labelled 4.2. Screens are stored in a clean, dry environment according to manufacturer's/supplier's specifications
5. Carry out routine user maintenance	5.1. Cleaning equipment is lubricated, cleaned and adjusted according to manufacturer's/supplier's specifications 5.2. Faults are identified, reported and/or rectified according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly identifying and labelling screens
- collecting, analysing and organising information by identifying and reporting machine faults
- planning and organising activities by maintaining and adjusting automatic cleaning equipment
- teamwork when maintaining the production process in association with fellow workers
- mathematical ideas and techniques by preparing the reclamation chemicals
- problem-solving skills by identifying and rectifying machine faults
- use of technology by using automatic cleaning equipment

Required knowledge

- stencil types and mesh counts
- types of stencil used
- significance of mesh counts
- handling technique used for frames with various mesh counts
- selection of appropriate safety gear
- personal protective equipment items you use for screen reclamation
- health hazards associated with chemical handling
- ink types
- requirement to treat various ink types differently when reclaiming
- pollution controls that are in operation with regards to environmental issues
- chemical selection and preparation
- major OHS concerns when handling chemicals
- selection of the appropriate chemicals for the ink, stencil and mesh types of each screen
- obtaining information on the application of each chemical
- machine operation adjustment and maintenance
- ventilation and extraction systems that should be in operation
- maintenance procedures that are necessary for this machine
- reclamation techniques
- properties of different reclamation chemicals
- application of chemicals for stencil removal

REQUIRED SKILLS AND KNOWLEDGE

- chemicals that are used to remove stains/haze
- chemical handling and storage
- enterprise policies on handling materials and chemicals
- enterprise policies on management and storage of chemicals
- name of personal protective clothing that has to be worn when handling and storing chemicals
- identifying and storing screens
- method that you use to identify the reclamation status of screens
- method of storing reclaimed screens
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> reclaim screens using automatic cleaning equipment according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources maintain the equipment and reclaim THREE screens, with various grades of meshes and ink types using automatic equipment and according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Ink, stencil and frame types</i> may include:	<ul style="list-style-type: none"> ink systems, stencil and frame types commonly used in the industry sector.
<i>Chemical type</i> may include:	<ul style="list-style-type: none"> chemicals commonly used for reclamation of screens.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Mesh type</i> may include:	<ul style="list-style-type: none"> screen meshes with a variety of thread counts, thicknesses, colours and weaves commonly used within the specific industry sector.
<i>Type of machine</i> may include:	<ul style="list-style-type: none"> automatic cleaning equipment commonly used in the industry sector.
<i>Tension measurement techniques</i> may include:	<ul style="list-style-type: none"> tension measurement techniques commonly used with the specific industry sector.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working under limited supervision.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP215C Prepare screen

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare screens.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare screens for screen printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select the frame	1.1. Frame is selected according to job specifications 1.2. Quality , type and finish of frame are specified
2. Prepare the frame	2.1. Frame surface is appropriately prepared free of imperfections to receive the mesh 2.2. Tools and equipment used in frame preparation are suitable to achieve the standard indicated in job specifications
3. Select the mesh	3.1. Required mesh type is selected according to job specifications 3.2. Imperfections and flaws are identified and appropriate remedial action is taken 3.3. Mesh is measured and cut from bulk supply to meet screen specifications with minimum wastage
4. Stretch and fix mesh	4.1. Mesh is positioned in tensioning equipment at the correct angle according to job specifications 4.2. Tension is set and applied according to job specifications 4.3. Tension is checked according to manufacturer's/supplier's specifications 4.4. Mesh is pre-stretched prior to fixing and mesh is fixed to frame according to frame construction requirements 4.5. Chemicals are mixed for application according to manufacturer's specifications 4.6. Screen is removed from apparatus after appropriate curing
5. Convert mesh	5.1. Chemicals are selected for the conversion of the mesh according to manufacturer's/supplier's specifications 5.2. Chemicals are applied to effect conversion according to manufacturer's/supplier's specifications and to OHS requirements
6. Store screen	6.1. Screens are identified and labelled 6.2. Screens are stored in a safe, clean and dry environment in subdued light

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling screens
- collecting, analysing and organising information by checking mesh tension for conformance to job specifications
- planning and organising activities by preparing the frame prior to using the mesh
- teamwork when maintaining the production process in association with fellow workers
- mathematical ideas and techniques by measuring and cutting mesh from bulk supplies
- problem-solving skills by identifying flaws in the mesh and taking appropriate remedial action
- use of technology by using the tools required to fix the mesh

Required knowledge

- OHS standards
- personal protective equipment required when preparing frame surface, screen adhesive and chemical conversion and using equipment for the surface preparation
- selecting and preparing the frame
- purpose a frame is used
- tools that you use for preparing the frame surface
- observations in order to achieve a good surface for mesh adhesion
- choosing and stretching the mesh
- mesh types
- frame size and mesh cutting
- flaws or imperfections that may be found in screen mesh
- measuring tension and fixing the mesh
- position that is the mesh placed before tensioning
- methods of pre-stretching the mesh prior to securing it
- tension measurement
- various methods of fixing mesh to frame
- pre-tensioning techniques used
- converting and storing the screen
- methods of converting the screen mesh chemically
- method of converting the screen mesh mechanically
- method that you use to identify the mesh on this screen

REQUIRED SKILLS AND KNOWLEDGE

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|---|
| <ul style="list-style-type: none">• ideal conditions for storing screens• manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare screens for screen printing according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • select TWO different frames types, either fixed or microchase, stretch and fix mesh as appropriate and prepare screen for stencil application, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Frame type</i> may include:	<ul style="list-style-type: none"> frame types commonly used within the industry relative to industry sectors.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Type of mesh</i> may include:	<ul style="list-style-type: none"> screen mesh thread counts, thread thickness, colours and weaves commonly used in the industry sectors.
<i>Tension measurement</i> may include:	<ul style="list-style-type: none"> different tension measurement techniques commonly used in the industry sector.
<i>Fixing method</i> may include:	<ul style="list-style-type: none"> fixing methods commonly used in the industry sector.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working to defined procedures in consultation with others to ensure production requirements are met.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to workplace and OHS procedures.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP221C Prepare substrate

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to prepare a wide range of substrates for screen printing.</p> <p>In some cases there may be an overlap with ICPCF221C Set up and produce basic guillotined product; if substrate preparation is substantially guillotining then ICPCF221C Set up and produce basic guillotined product should be used.</p>
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Application of the Unit

Application of the unit	This unit requires the individual to prepare substrates for screen printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select substrate	1.1. Substrates are selected according to job specifications 1.2. Substrates selected are to be of suitable form and quality according to job specifications and the end use of the product
2. Process substrate	2.1. Processing of substrate is carried out according to job specifications 2.2. Necessary preventive action is taken to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected 2.3. User maintenance requirements are identified and implemented according to manufacturer's/supplier's instructions 2.4. Substrate is inspected and print capability assessed, including the need for any special preparation requirements 2.5. Substrate is suitably pre-treated, where required 2.6. Substrate is appropriately labelled according to job specifications
3. Store and handle substrate	3.1. Materials are safely handled according to manufacturer's/supplier's specifications 3.2. Materials and substrate are appropriately handled and stored according to manufacturer's/supplier's specifications to prevent damage and hazards to personnel 3.3. Offcuts of materials are disposed of according to regulatory requirements and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by implementing user maintenance requirements
- collecting, analysing and organising information by inspecting substrates and assessing their print capacity
- planning and organising activities by selecting substrate to ensure best yield according to job specifications
- teamwork when maintaining the production process in association with fellow workers
- mathematical ideas and techniques by appropriately storing materials and substrate
- problem-solving skills by disposing of waste and offcuts according to enterprise procedures
- use of technology by using basic tools to prepare substrates

Required knowledge

- safe handling of processing equipment and tools
- OHS concerns when preparing substrates
- safe practices for handling substrates and equipment
- identification of chosen substrate
- identity of each of the chosen substrates
- final application of each of the substrates after printing
- choosing the grade/thickness of substrate
- preparation and pre-treatment of substrate before printing
- defects and irregularities of the substrate
- pre-treatment of the surface that is required before printing
- tests that should be undertaken to determine the suitability of the substrate for printing
- ensuring the best yield from substrate sheet/roll to prevent wastage
- substrate cutting to obtain the least wastage
- processing substrate according to job specifications
- equipment/tools you use for preparing substrate
- substrate preparation and the quality of preparation monitoring
- proper stacking and storage of processed substrate
- handling and storage procedures that are there to prevent damage to substrate prior to printing
- substrate preparation according to job specifications

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• proper disposal of offcuts and environmental implications• correct procedures for the disposal of offcuts of substrate• environmental and conservation procedures that should be carried out• manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare substrates for screen printing according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • select and process TWO substrates commonly used within the industry sector according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Type of substrate</i> may include:	<ul style="list-style-type: none"> substrates commonly used within the industry relative to industry sectors.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Conversion methods</i> may include:	<ul style="list-style-type: none"> variety of methods of converting substrate of a type commonly used in the industry relative to industry sectors.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> performing work under supervision to defined procedures to ensure production requirements are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPSP222C Prepare and cut screen print substrate

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to inspect and cut substrate according to job specifications.
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Application of the Unit

Application of the unit	This unit requires the individual to inspect and cut substrate according to job specifications and end use of the product.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare substrate	<p>1.1. <i>Substrates</i> selected are of suitable quality according to job specifications and the end use of the product</p> <p>1.2. Substrate is inspected and print capability assessed, including the need for any special preparation requirements</p> <p>1.3. Necessary preventive action is taken to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected</p> <p>1.4. Substrate is suitably pre-treated, where required</p>
2. Cut substrate	<p>2.1. Set-up is carried out correctly in minimum time with minimum wastage</p> <p>2.2. Grip and lay edges of sheet are identified</p> <p>2.3. Knives are checked for appropriate sharpness</p> <p>2.4. Cutting sticks are replaced when necessary</p> <p>2.5. Guillotine is manually set up and adjusted according to job specifications</p> <p>2.6. Clamping pressures are set up and adjusted according to job specifications</p> <p>2.7. Problems in cutting (guillotining) machine operation are identified and reported according to enterprise procedures</p> <p>2.8. Quality of <i>cuts</i> is checked to ensure quality standards are met</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by ensuring substrate quality standards
- collecting, analysing and organising information by inspecting the substrate and its print capability, including the need for any special preparation requirements
- planning and organising activities by taking necessary preventive action to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by setting clamping pressures and adjusting them according to job specifications
- problem-solving skills by checking quality of cuts to ensure quality standards are met
- use of technology by using guillotines and other equipment to prepare and cut screen print substrate

Required knowledge

- information contained in job specifications
- process for checking guillotine knives
- guillotine set up and operation
- safe guillotine handling and operation
- proper stacking and storage of processed substrate

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> inspect and cut substrate according to job specifications for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment guillotine and associated equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Substrates may include:

- range of substrates in categories of paper, paperboard, corrugated board, plastics.

Cut may include:

- single knife, manual guillotines.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

ICPSP233C Manually prepare direct emulsion stencil

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct emulsion stencils using manual techniques.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare direct emulsion stencils using manual techniques.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area and equipment	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Appropriate <i>coating</i> trough is selected ensuring it is free of nicks and burrs
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications 2.3. Tension of screen mesh is checked for suitability according to job specifications
3. Select emulsion	3.1. Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type 3.2. Emulsion is checked for expiry date and appropriate action taken 3.3. Emulsion is prepared according to OHS requirements and manufacturer's/supplier's specifications 3.4. Emulsion is applied and dried according to manufacturer's/supplier's specifications
4. Process coated screen	4.1. Image films are appropriately positioned onto prepared screen and positioned in cleaned/prepared/appropriate exposure device 4.2. Light source is positioned according to manufacturer's/supplier's specifications 4.3. Exposure is calculated and <i>stencil</i> exposed according to manufacturer's/supplier's specifications 4.4. Exposed screen is removed from vacuum frame exposure device 4.5. Exposed screen is washed out after positive removal according to OHS requirements and manufacturer's/supplier's specifications 4.6. Processed stencil/screen is inspected for flaws and scum
5. Dry stencil	5.1. Processed stencil is dried according to manufacturer's/supplier's specifications 5.2. Backing sheet is carefully removed and stencil

ELEMENT	PERFORMANCE CRITERIA
	checked for full adhesion
6. Block out screen	6.1. Backing sheet is carefully removed and stencil checked for full adhesion 6.2. Stencil is inspected for flaws, scum and/or orientation 6.3. Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7. Store screen	7.1. Prepared screen is labelled according to <i>enterprise</i> specifications 7.2. Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling the completed screens
- collecting, analysing and organising information by selecting correct emulsion according to job specifications
- planning and organising activities by preparing the work area and equipment prior to coating the screens
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating required exposure time for the screen
- problem-solving skills by inspecting stencil for flaws and spotting out pinholes
- use of technology by processing the screen using photographic equipment

Required knowledge

- preparation of screen for coating
- significance of the mesh count
- effect that screen tension has on emulsion coating
- emulsion suitable for the job
- preparation of work area and equipment
- significance of good housekeeping
- effect that the coating trough edge have on emulsion coating
- selecting the right emulsions for the job
- choice of emulsion
- reasons for checking the expiry date of emulsions
- maximum temperature at which the emulsion can be dried
- coating and exposure techniques
- need to have good vacuum pressure in the vacuum frame
- why have you placed the light source in this position?
- formula use to calculate exposure time
- effects of overexposure and underexposure
- optimum exposure time
- effect on exposure that a white or coloured mesh have
- how do you determine if the screen is washed out properly?
- what characteristics determine a good or bad stencil?
- drying screen and blocking out
- drying the screen before blocking out

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• type of filler used for blocking out• reasons for spotting pinholes and taping the screen• storage and OHS• OHS requirements for UV exposure light• means by which this screen is able to be identified at a later date• manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly prepare direct emulsion stencils using manual techniques according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare TWO different direct screens using manual coating and exposure techniques according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Coating techniques</i> may include:	<ul style="list-style-type: none"> • manual coating techniques for various emulsions, mesh types and definition requirements.
<i>Type of stencil material</i> may include:	<ul style="list-style-type: none"> • direct stencil materials commonly used relative to each industry sector.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • tasks must be performed according to enterprise procedures.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> • working under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPSP235C Prepare stencil using photographic indirect method

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare photographic indirect stencils.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare photographic indirect stencils.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment, tools and materials are inspected to ensure they are functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Activating chemicals are prepared according to OHS requirements and manufacturer's/supplier's specifications
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications 2.3. Tension of screen mesh is checked for suitability according to job specifications
3. Select indirect stencil material	3.1. Stencil material is selected according to requirements for ink type, print resolution, substrate and machine type 3.2. Stencil material is checked for faults and expiry date and suitable action taken
4. Process material	4.1. Selected material is cut to size according to job specifications with minimisation of waste 4.2. Material is placed in vacuum frame with positive positioned and intimate vacuum achieved according to manufacturer's/supplier's and job specifications 4.3. Exposure is calculated and stencil is exposed according to manufacturer's/supplier's specifications 4.4. Light source is positioned according to manufacturer's/supplier's specifications 4.5. Exposed stencil is removed from vacuum frame and treated with the necessary activator, if required, according to OHS requirements and manufacturer's/supplier's specifications 4.6. Activated stencil is washed according to OHS requirements and manufacturer's/supplier's specifications 4.7. Exposed stencil is inspected for processing flaws
5. Apply stencil to screen	5.1. Prepared screen is re-wet and inspected for cleanliness and dust 5.2. Stencil is positioned and adhered accurately

ELEMENT	PERFORMANCE CRITERIA
	according to manufacturer's/supplier's specifications
6. Dry stencil	<p>6.1.Processed stencil is dried according to manufacturer's/supplier's specifications</p> <p>6.2.Backing sheet is carefully removed and stencil checked for full adhesion</p>
7. Block out screen	<p>7.1.Stencil is inspected for flaws, scum and/orientation</p> <p>7.2.Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications</p> <p>7.3.Pinholes are spotted out with suitable filler and faulty/damaged images are retouched and are taped according to ink type and job specifications</p>
8. Store screen	<p>8.1.Prepared screen is labelled according to <i>enterprise</i> specifications</p> <p>8.2.Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly labelling prepared stencils
- collecting, analysing and organising information by checking materials for faults and expiry dates
- planning and organising activities by preparing the screen prior to applying the stencil
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by cutting selected materials to size according to job specifications
- problem-solving skills by retouching and taping damaged images
- use of technology by using the vacuum frame and other equipment to prepare the stencil

Required knowledge

- preparing the screen
- significance of mesh count
- reason the screen must be tensioned correctly
- chemicals that are used for pre-treating and degreasing
- equipment used and preparation of work area
- method of preparing activator to OHS standards
- significance of a dust-free work area when working with indirect stencils
- inspection of necessary equipment to ensure it is functional
- indirect stencil material selection
- characteristics of indirect stencils relative to ink type, print resolution and substrate
- selection of indirect stencil material
- common faults associated with indirect film
- exposing, activating and washing indirect stencils
- vacuum pressure prior to exposing the stencil
- position of light source
- calculation of exposure time for this indirect film
- effects of overexposure and underexposure
- method of activating film
- temperature of the water for washing indirect stencils
- Recognising and rectifying flaws
- applying stencil to screen and drying off

REQUIRED SKILLS AND KNOWLEDGE

- main considerations before applying the stencil to the screen
- method of positioning and adhering stencil to screen
- process of drying the stencil and removing the backing sheet
- blocking out, spotting and storing the screen
- method of rectifying flaws and scum in the stencil
- type of filler used for blocking out and their use
- pinholes spotting and the screen taping
- means by which this screen is able to be identified at a later date
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare direct emulsion stencils using manual techniques according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different direct screens using manual coating and exposure techniques according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Type of stencil material</i> may include:	<ul style="list-style-type: none"> storage and use of indirect stencil materials and activators commonly used within the industry relative to industry sectors.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

ICPSP270C Manually prepare and produce screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually prepare and produce screen prints.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a print on a range of common substrates, using fundamental manual screening techniques. This unit is required for long print runs which therefore involve a production process.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1. Material safety data sheets are used to identify safe chemical handling procedures 1.2. Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.3. Ink is checked for conformance to job specifications 1.4. Stencil is checked for conformance to job specifications
2. Prepare machine to print	2.1. Substrate position and stencil registration are adjusted according to job specifications 2.2. Ink is applied to the screen in the quantity required for the screen size 2.3. Equipment is kept clean and spillage is minimised
3. Produce proof print	3.1. Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2. Adjustments are made according to product and machine specifications 3.3. Belt speed and energy required are set to achieve desired curing or drying properties 3.4. Appropriate approval to commence production is sought prior to commencement
4. Run job and monitor print quality	4.1. Printing speed production is adjusted to maximise quality and output 4.2. Print quality is continuously evaluated and adjusted as required 4.3. Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures 4.4. Workplace documentation on job is completed as required 4.5. Curing and drying are constantly monitored and adjusted according to manufacturer's/ supplier's and job specifications
5. Carry out routine user maintenance	5.1. Equipment is cleaned according to enterprise procedures 5.2. Fault conditions are identified and reported according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
6. Stack production output	<p>6.1. Output is checked for thorough drying/curing before stacking</p> <p>6.2. Job status and progress are checked for conformance to job specifications and any necessary action is taken</p>
7. Conduct shutdown of the production process	<p>7.1. Material is transferred to correct destination in a safe manner</p> <p>7.2. Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications</p> <p>7.3. Waste materials and chemicals are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures</p> <p>7.4. Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications</p> <p>7.5. Tools and equipment are identified, stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety</p> <p>7.6. The correct procedure for dealing with spilt chemicals is demonstrated according to OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by seeking appropriate approval to commence production prior to commencement
- collecting, analysing and organising information by running off and checking the proof for various aspects according to the job specifications
- planning and organising activities by continuously evaluating and adjusting print quality
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by making adjustments according to product and machine specifications
- problem-solving skills by undertaking the correct procedure for dealing with spilt chemicals
- use of technology by using manual screen printing equipment

Required knowledge

- information that can be gained from material data safety sheets
- the need to check the substrate for conformance to the job specifications
- action required if the ink did not comply with the job specifications
- compliance checks that are made with the stencil
- limitations that you have when setting the substrate position
- the result if too much ink were applied to the screen
- the need to keep equipment clean
- OHS concerns that are there when producing a manual print
- checks to be made on the printed sheet when the proof print has been run off
- the drying/curing system to be used for this application
- product and machine specifications
- the result if the belt speed was too high
- the need to obtain final approval before commencing the production run
- aspects of the print that are evaluated during printing
- the need to make ink alterations during the run
- the workplace documentation action when the print run is completed
- OHS concerns that are there in relationship to drying/curing systems?
- maintenance that should be carried out on this machine
- the importance of reporting any faulty equipment
- how do you determine whether a print is dried/cured prior to stacking?

REQUIRED SKILLS AND KNOWLEDGE

- what would be the result of stacking while the ink film is still wet?
- what action may be necessary if problems occur with job progress?
- identifying the job's destination when you have completed the run
- the result of not keeping screens and squeegees clean
- the result of not following correct procedures when disposing of liquid waste
- the result of not keeping equipment and surrounding areas clean
- manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up screen printing machinery and produce a print that meets job specifications on a range of common substrates, using fundamental manual screening techniques • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment • manual screen printing equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate</i> may include:	<ul style="list-style-type: none"> material or substance that will hold an image.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, work tickets or processing orders.
<i>Drying/curing</i> may include:	<ul style="list-style-type: none"> manual drying systems commonly used in specific industry sections.
<i>Appropriate approval</i> may include:	<ul style="list-style-type: none"> client approval sought or enterprise approval from supervising personnel.
<i>Workplace documentation</i> may include:	<ul style="list-style-type: none"> enterprise procedural documents.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

ICPSP271C Manually produce basic screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually produce one- or two-colour screen prints.
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Application of the Unit

Application of the unit	This unit is for the production of short runs that do not require a strong emphasis on production. For example it may be used in the production of limited art prints.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1.Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2.Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1.Ink is applied to the screen in the quantity required for the screen size 2.2.Equipment is kept clean and spillage is minimised 2.3.Ink is checked for conformance to job specifications
3. Produce proof print	3.1.Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2.Adjustments are made as required 3.3.Appropriate approval to commence production is sought prior to commencement 3.4.Belt speed and energy required are set to achieve desired curing or drying properties
4. Run job and monitor print quality	4.1.Printing speed production is adjusted to maximise quality and output 4.2.Print quality is continuously evaluated and adjusted as required 4.3.Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures 4.4.Workplace documentation on job is completed as required 4.5.Curing and drying are constantly monitored and adjusted according to manufacturer's/ supplier's and job specifications
5. Carry out routine user maintenance	5.1.Equipment is cleaned according to enterprise procedures 5.2.Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	6.1.Output is checked for thorough drying/curing before stacking 6.2.Job status and progress are checked for conformance to job specifications and any necessary action is taken
7. Finish operation	7.1.Excess ink, screens, squeegees and flood coaters are

ELEMENT	PERFORMANCE CRITERIA
	<p>removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications</p> <p>7.2. Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures</p> <p>7.3. Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by seeking approval for a production run after a proof is produced
- collecting, analysing and organising information by completing workplace documentation
- planning and organising activities by producing a proof print prior to doing the job run
- teamwork when maintaining the production process in association with colleagues
- mathematical ideas and techniques by applying the correct quantity of ink to the screen
- problem-solving skills by checking proof for conformance to job specifications and making required adjustments
- use of technology by using the various equipment and tools required

Required knowledge

- the procedure for setting up the frame in position relative to the print image and base board in preparation for printing
- check to be made of the ink to determine its suitability for printing on this substrate
- the need to check the substrate for conformance to job specifications
- OHS concerns that are there when producing a manual print
- checks to be made on the printed sheet when the proof print has been run off
- what aspects of the print are evaluated during printing?
- the drying/curing system to be used for this application
- maintenance that should be carried out on this machine
- the correct method of ink removal and cleaning squeegees
- ways of determining whether a print is dried/cured prior to stacking
- manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manually produce different one- or two-colour print runs according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources manually produce TWO different one- or two-colour print runs according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU202C Prepare, load and unload product on and off machine ICPSP351C Prepare machine and drying/curing unit.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> • manual drying systems commonly used in specific industry sectors.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • tasks must be performed according to enterprise procedures.
<i>Types of techniques</i> may include:	<ul style="list-style-type: none"> • basic manual techniques relative to industry sector.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • one- or two-colour jobs.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> • working under supervision to previously defined procedures to ensure production requirements are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPSP273C Semi-automatically produce basic screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce one- or two-colour semi-automatic screen prints.
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Application of the Unit

Application of the unit	This unit requires the individual to produce screen prints using one- or two-colour semi-automatic machines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1.Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2.Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1.Ink is applied to the screen in the quantity required for the screen size 2.2.Equipment is kept clean and spillage is minimised 2.3.Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1.Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2.Adjustments are made as required 3.3.Appropriate approval to commence production is sought prior to commencement 3.4.Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1.Printing speed production is adjusted to maximise quality and output 4.2.Print quality is continuously evaluated and adjusted as required 4.3.Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications 4.4.Workplace documentation on job is completed as required 4.5.Curing and drying are constantly monitored and adjusted according to manufacturer's/ supplier's and job specifications
5. Carry out routine user maintenance	5.1.Equipment is cleaned according to manufacturer's/supplier's specifications 5.2.Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	6.1.Output is checked for thorough drying/curing before stacking 6.2.Job status and progress are checked for conformance

ELEMENT	PERFORMANCE CRITERIA
	to job specifications and any necessary action is taken
7. Shut down machine	7.1.Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications 7.2.Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures 7.3.Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by obtaining approval to commence a production run
- collecting, analysing and organising information by checking the substrate for conformance to the job specifications
- planning and organising activities by producing a proof print prior to running a job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by setting the belt speed and required energy
- problem-solving skills by continuously evaluating and adjusting print quality
- use of technology by using semi-automatic and computerised machines to produce screen prints

Required knowledge

- the substrate, finished size, length of run and/order of colours
- colour sequence
- the correct placement of image on the sheet
- the significance of substrate guides/lays
- the procedure for setting up the frame position relative to the print image and base in preparation for printing
- the selection of the ink system
- the set parameters of belt speed and head units
- OHS concerns that are there when using a semi-automatic machine
- the type of squeegee/flood coater and squeegee angle used
- the production of a proof print and what needs to be checked on the proof
- continuous monitoring of print quality and drying/curing of ink
- the purpose of workplace documentation
- check that are made of printed sheets for drying/curing before stacking
- the procedure that you take for disposing of unused ink and solvent rags
- checks that are made to determine that prints are dried/cured
- frequency and type of maintenance that should be performed
- machine manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly produce screen prints using semi-automatic machines according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce TWO different one- or two-colour print runs using a semi-automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • demonstrate use of computerised control, monitoring and data entry systems if available and appropriate.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU202C Prepare, load and unload product on and off machine • ICPSU208C Operate and monitor machines (basic) • ICPSP351C Prepare machine and drying/curing unit • any basic set up units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> • manual drying racks, mechanical dryers or UV curing units.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • tasks must be performed according to enterprise procedures.
<i>Types of machine</i> may include:	<ul style="list-style-type: none"> • semi-automatic and computerised machines relative to the industry sector.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> • one- or two-colour jobs.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> • working under supervision to previously defined procedures to ensure production requirements are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPSP275C Automatically produce basic screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce one- or two-colour automatic screen prints.
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Application of the Unit

Application of the unit	This unit requires the individual to produce screen prints using one- or two-colour automatic machines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.	

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	<p>1.1.Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified</p> <p>1.2.Substrate position and stencil registration are adjusted according to job specifications</p>
2. Apply ink to screen	<p>2.1.Ink is applied to the screen in the quantity required for the screen size</p> <p>2.2.Equipment is kept clean and spillage is minimised</p> <p>2.3.Ink is checked for conformance to job specifications</p> <p>2.4.Feeder is set and adjusted to suit substrate</p>
3. Produce proof print	<p>3.1.Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing, artwork detail and other technical aspects according to job specifications</p> <p>3.2.Adjustments are made as required</p> <p>3.3.Appropriate approval to commence production is sought prior to commencement</p> <p>3.4.Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit</p>
4. Run job and monitor print quality	<p>4.1.Printing speed production is adjusted to maximise quality and output</p> <p>4.2.Print quality and sheet feeder are continuously evaluated and adjusted as required</p> <p>4.3.Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications</p> <p>4.4.Workplace documentation on job is completed as required</p> <p>4.5.Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications</p>
5. Carry out routine user maintenance	<p>5.1.Equipment is cleaned according to manufacturer's/supplier's specifications</p> <p>5.2.Fault conditions are identified, reported and/or rectified according to enterprise procedures</p>
6. Handle production output	<p>6.1.Output is checked for thorough drying/curing before handling</p> <p>6.2.Job status and progress are checked for conformance</p>

ELEMENT	PERFORMANCE CRITERIA
	to job specifications and any necessary action is taken
7. Shut down machine	7.1.Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications 7.2.Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures 7.3.Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by gaining approval to commence a production run
- collecting, analysing and organising information by checking job status and progress according to job specifications
- planning and organising activities by following machine shutdown procedures
- teamwork when completing workplace documentation
- mathematical ideas and techniques by adjusting print speed to maximise quality
- problem-solving skills by monitoring and responding to the effect of ink alterations
- use of technology by operating automatic and computerised screen printing machines

Required knowledge

- adjustments that are necessary to the machine prior to setting up
- maintenance that is required on the machine and feeder prior to the commencement of printing
- substrate is to be used on this job
- procedure that you use for checking the screen sequence of colours, ink, substrate and squeegee/flood coater prior to printing
- the system for setting the feed board and loading substrate
- the need to prepare substrate or item when loading the feeder
- adjustment of the stock feed system for this machine
- the correct positioning, registering and locking the screen in position
- need to adjust the off contact/peel-off requirements of the screen
- the OHS requirements when working with infra red/UV curing units
- the relationship between ink deposit, squeegee speed and belt speed/temperature of the drying/curing unit
- the routine maintenance you undertake on this drying/curing unit
- OHS concerns that are there when using an automatic machine
- the effect of humidity on the substrate
- the correct viscosity of the ink prior to printing
- the rectification of the change in the viscosity of the ink during a production run
- evaluation and maintenance of the print quality during the run
- the ideal printing rate for this substrate on this machine
- production output handling to prevent offsetting of the ink

REQUIRED SKILLS AND KNOWLEDGE

- the effect that the ink conditions have on output capacity
- the need to determine the exact count and to record production details on the job sheet
- the health hazards associated with ink/solvents
- the correct procedure for removing the ink without damaging the screen
- the correct method of cleaning squeegees/flood coaters, machine and surrounding area
- maintenance that is required on this machine after printing
- machine manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to job specifications demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment access to appropriate equipment and materials.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> drying systems commonly used and relative to the industry sector.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Type of machine</i> may include:	<ul style="list-style-type: none"> semi-automatic and computerised screen printing machines relative to the industry sector.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> multi-colour jobs.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working to defined procedures in consultation with other relevant persons to ensure production procedures are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP281C Finish screen print products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake finishing processes used on screen printed products not covered by Converting, Binding and Finishing units. If the finishing is substantially guillotining, flat-bed cutting or folding, the relevant Converting, Binding and Finishing units should be used.
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Application of the Unit

Application of the unit	This unit requires the individual to finish screen print products.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Receive printed product	1.1. Screen print job is collected/received and <i>quality</i> checks made according to job specifications 1.2. Defects or irregularities are identified, reported and/or rectified
2. Carry out final processing	2.1. Final processing requirements of the job are determined from job specifications 2.2. Equipment and materials for final processing are identified and prepared according to manufacturer's/supplier's and job specifications 2.3. Final processes are implemented according to job specifications and industry practice 2.4. Quality of product is monitored and maintained throughout final processing 2.5. Irregularities are identified, reported and/or rectified 2.6. Job status and progress are checked for conformance to job specifications and any necessary action is taken
3. Handle final product	3.1. The final print is processed using appropriate handling, storage and dispatching techniques to ensure minimal wastage and prevent hazards to personnel 3.2. Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and <i>enterprise procedures</i> 3.3. Post-production cleaning and user maintenance are carried out according to manufacturer's/supplier's specifications
4. Store, pack and dispatch	4.1. Final quality checks are carried out and appropriate action taken according to job specifications 4.2. Finished job is stored, packed and dispatched according to job specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by reporting defects or irregularities
- collecting, analysing and organising information by determining final processing requirements from job specifications
- planning and organising activities by disposing of waste products according to workplace and community standards
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by preparing equipment and materials according to job specifications
- problem-solving skills by identifying and rectifying faults in screen print jobs
- use of technology by using the various equipment and machinery required to finish screen print products

Required knowledge

- techniques that are used to determine defects and irregularities
- rectifying defects
- the features of a quality screen printed job
- OHS concerns that are there when finishing print jobs
- the equipment, tools and materials you use for final processing
- the final processing requirements for the job
- finishing processes that are being used on this job
- the final processes indicated in the job specifications
- monitoring and maintaining the quality of the finished product throughout final processing
- safety requirements that are there when handling printed product
- the handling techniques that are used to prevent damage to the processed product
- the correct methods for disposing of waste material
- post-production cleaning methods that are used
- the name and type and frequency of maintenance that should be performed on equipment
- the final quality checking methods you are using
- method that you use for maintaining and recording job information
- the final product packaging and storing
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly finalise screen print products according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • finish TWO different screen printed jobs and apply final processing requirements according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • any basic set up unit.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Types of finishing process</i> may include:	<ul style="list-style-type: none"> finishing processes commonly used in screen printing EXCLUDING guillotining, flat-bed cutting and folding covered in separate Converting Binding and Finishing units.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> work is performed under supervision to defined procedures to ensure production requirements are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP282A Prepare film for basic screen printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare film for screen printing. No licensing, legislative, regulatory or certification requirements apply to this unit of competency.
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Application of the Unit

Application of the unit	This unit applies to individuals who generally work under direction, assess the production requirements in accordance with job specifications and operate equipment to prepare film for screen printing.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the production requirements in order to meet the process and job specification	1.1. Requirements of the printing process and job <i>specification</i> are assessed 1.2. Quality of job <i>elements</i> , including resolution/dpi are specified according to client requirements 1.3. Films, dye cartridges, qualities and process requirements are determined 1.4. Stock levels are checked, recorded and maintained according to job specifications 1.5. Copy is checked and assessed according to job specifications
2. Prepare and operate equipment to produce film separations	2.1. <i>Scanner</i> /computer is selected and artwork/copy is placed squarely in the scanner 2.2. Scanner software is selected/opened and correct settings are made according to job requirements 2.3. Previews are made, images selected, finished scan completed, and image adjusted as required 2.4. Image format is determined and saved to a storage device
3. Select and use appropriate imaging software	3.1. Software is selected and scan opened 3.2. Separation is provided on individual layers according to job specifications 3.3. Colours are excluded as required on separation layers 3.4. Separation layers are coloured for specific raster image processor (RIP) software requirements 3.5. Image/layers or separations are manually nested if required in accordance with film output device size 3.6. Image format is determined according to RIP software requirements 3.7. Supplied finished artwork/separation is checked for output suitability
4. Select and operate an appropriate output device producing film separations	4.1. RIP software is selected and opened 4.2. Imagesetter/dye printer is selected and checked, and heads cleaned prior to outputting images 4.3. Nesting is checked to ensure non-wastage of film 4.4. Image is evaluated to ensure it complies with the job specifications and corrected if required 4.5. Film is handled and output device is closed down according to manufacturers' recommendations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication and literacy skills for expressing ideas and information
- planning, analysing and organising skills for preparing the screen prior to processing the materials in accordance with job specifications
- teamwork skills for maintaining the production process in association with others
- problem-solving skills for identifying faults and rectifying the image where required
- technical skills for operating hand/or computer driven cutting tools, handling film before and after separation and measuring the halftone value on film separation

Required knowledge

- image specifications
- resolutions/dpi determination
- scanner settings
- adjusting image brightness/contrast
- correct file format
- imaging software
- software for scanning and creation of vector graphics
- exclusion of colours and bleed for a particular job
- purpose of colouring separation layers (Hexachrome black)
- common file format when using RIP software
- nesting requirements
- output suitability prior to producing separations
- correct output device regular checks and maintenance that must be performed on an imagesetter/dye printer
- RIP software settings that must be checked prior to ripping
- procedures for evaluating output film to ensure it conforms to job specifications
- halftone value

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • produce films according to job specifications, client and industry standards • prepare film for two different products involving a variety of image effects according to job specifications and manufacturer's specifications • demonstrate the related underpinning knowledge to prepare for screen printing.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • that conditions are typical ambient conditions found in the workplace • access to relevant facilities and equipment • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • practical demonstration by the candidate in preparing film for screen printing • direct questioning of underpinning knowledge required to prepare for screen printing and OHS issues.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specifications may include:

- screen rulings
- dot percentages
- image thickness/film assessment.

Elements may include:

- text
- headings
- rules
- components and shapes.

Scanner may include:

- flat-bed
- drum scanners.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen printing
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Co-requisite units

Co-requisite units		

ICPSP311C Reclaim screen manually

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually reclaim screens.
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Application of the Unit

Application of the unit	This unit requires the individual to manually reclaim screens.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare chemicals	<p>1.1. <i>Ink and stencil type</i> are correctly identified and screen is assessed for suitability to be reclaimed</p> <p>1.2. Most appropriate reclamation method is chosen for the job</p> <p>1.3. Screen reclamation <i>chemicals</i> are selected and prepared according to manufacturer's/supplier's specifications</p> <p>1.4. Appropriate safety gear is selected and worn according to manufacturer's/supplier's specifications and OHS requirements</p>
2. Wash screen	<p>2.1. Stencil is treated with appropriate chemical to manufacturer's specifications</p> <p>2.2. Screens are washed using a pressure gun in a suitably ventilated area with the required extraction system</p> <p>2.3. Stains and hazards are removed using appropriate chemicals according to manufacturer's/supplier's specifications and OHS requirements</p> <p>2.4. Screens are checked for damage and any defects are reported and/or rectified according to <i>enterprise procedures</i></p>
3. Store screen	<p>3.1. Screens are correctly identified and labelled</p> <p>3.2. Screens are stored in a clean, dry environment according to manufacturer's/supplier's specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly identifying and labelling screens
- collecting, analysing and organising information by correctly identifying ink and stencil type
- planning and organising activities by selecting and preparing chemicals and solvents before washing and storing screens
- teamwork when maintaining the production process in association with fellow workers
- mathematical ideas and techniques by preparing the reclamation chemicals
- problem-solving skills by rectifying damage to screens according to enterprise procedures
- use of technology by using a pressure gun with associated safety equipment

Required knowledge

- significance of mesh count
- treatment of screens with different mesh counts
- mesh and frame faults
- common faults that could occur in meshes and frames
- ink/stencil types
- ink removal procedures for THREE different inks
- stencil removal procedures for TWO stencil types
- chemical selection and preparation
- chemicals available for screen reclamation
- reasons for selecting chemicals and method for screen reclamation
- chemical handling and disposal
- main considerations when handling and disposing of chemicals
- reclamation techniques
- various screen reclamation techniques available in the industry
- reasons for selecting and applying a specific technique for screen reclamation
- OHS constraints
- hazards to be aware of in reclaiming screens
- enterprise material handling policies?
- enterprise policies on management of waste?
- personal protective clothing that should be worn when reclaiming screens

REQUIRED SKILLS AND KNOWLEDGE

- | |
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| <ul style="list-style-type: none">• manuals, safety and other relevant documentation and the information included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> reclaim screens, preferably of different mesh and stencil types commonly used in the industry, using manual techniques, according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources reclaim THREE screens, preferably of different mesh and stencil types commonly used in the workplace, using manual techniques, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria. evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> skills and knowledge are demonstrated in a range of situations and in an environment that realistically reflects the workplace access to a range of relevant tools, equipment, materials, resources and documentation used when reclaiming screens in the printing industry application of the most current workplace procedures, processes and techniques used in the printing industry.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Ink, stencil and frame types</i> may include:	<ul style="list-style-type: none"> ink systems, stencil and frame types in common use in specific industry sectors.
<i>Chemical type</i> may include:	<ul style="list-style-type: none"> chemicals and solvents commonly used for the reclamation of screens.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures and OHS requirements.
<i>Mesh type</i> may include:	<ul style="list-style-type: none"> all types of mesh material, thread counts, thicknesses, colours and weaves used in specific industry sectors.
<i>Tension measurement techniques</i> may include:	<ul style="list-style-type: none"> various different tension measurement techniques in common use in specific industry sectors.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working under supervision to previously defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP333C Automatically prepare direct emulsion stencil

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct emulsion stencils using automatic coating equipment.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare direct emulsion stencils using automatic coating equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area and equipment	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Appropriate <i>coating</i> troughs for automatic coaters are selected ensuring they are free of nicks and burrs 1.4. Automatic coating equipment is inspected and routine user maintenance is carried out according to manufacturer's instructions and <i>enterprise procedures</i> 1.5. Automatic coating equipment is adjusted to suit screen frame and mesh and emulsion
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications 2.3. Tension of screen mesh is checked for suitability according to job specifications
3. Select emulsion	3.1. Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and <i>machine type</i> 3.2. Emulsion is checked for expiry date and appropriate action taken 3.3. Emulsion is prepared according to OHS requirements, and manufacturer's/supplier's specifications 3.4. Emulsion is used and dried according to manufacturer's/supplier's specifications
4. Process coated screen	4.1. Coated screen frame is placed in vacuum frame and adequately vacuumed with positive positioned according to manufacturer's/supplier's specifications 4.2. Light source is positioned according to manufacturer's/supplier's specifications 4.3. Exposure is calculated and <i>stencil</i> exposed according to manufacturer's/supplier's specifications 4.4. Exposed screen is removed from vacuum frame 4.5. Exposed screen is washed out after positive removal according to OHS requirements and manufacturer's/supplier's specifications

ELEMENT	PERFORMANCE CRITERIA
	4.6.Processed stencil/screen is inspected for flaws
5. Store screen	5.1.Prepared screen is labelled according to enterprise specifications 5.2.Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly labelling prepared stencils
- collecting, analysing and organising information by selecting the correct emulsion according to job specifications
- planning and organising activities by ensuring functionality of equipment prior to starting work
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating required exposure time for emulsion
- problem-solving skills by inspecting automatic coating machine and conducting maintenance
- use of technology by using automatic coating machines

Required knowledge

- the influence that the mesh count has on final printed product
- the need to have the correct tension on the screen
- the screen tension that is required on screens of various mesh counts and grades
- degreasing/cleaning techniques that are employed prior to coating the screen
- information that is contained in MSDSs for the emulsion being used
- the OHS requirements for exposure to UV light sources
- pollution and environmental issues that need to be considered when working with emulsions
- maintenance that is required for the automatic coating machine
- TWO emulsions used in screen printing and describe their characteristics, their shelf life and areas of use
- the storage requirements for the emulsion you are using
- the preparation formula for the emulsion you are using
- the need to have the correct illumination in the work area
- the influence that the length of run and ink or dye being used have on the coating technique
- the number of coats of emulsion and the best method of coating the screen
- factors that are taken into consideration in determining the angle at which the coaters coat the screen
- the appropriate position (horizontal or vertical) for drying the screen
- the effect that each of these positions has on the way the emulsion dries
- the effect of heat on the emulsion during the drying process

REQUIRED SKILLS AND KNOWLEDGE

- the function and use of a light integrator
- the procedure for exposing the stencil
- the effect that the position, angle and distance of the light source have on the exposure process
- the need to have perfect contact between positive and screen during exposure
- the effect that temperature, pressure and time taken have on the washing out process
- wash-out completion
- the ideal position of the screen for drying to prevent scum and streaking
- the impact of post-curing on the stencil
- information that you have obtained from the MSDS for this particular blackout
- the bearing of ink to be used and the type of stencil on the type of blackout
- preventive measures that can be taken to minimise pinholes
- the need to tape the edge of the frame and the squeegee edge
- the means used to identify the screen at a later date
- manuals, safety and other documentation that are relevant to this task and where they are kept
- information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare direct emulsion stencils using automatic coating equipment according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different direct screens using automatic coating equipment, and expose, wash and dry the screen according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Coating techniques</i> may include:	<ul style="list-style-type: none"> appropriate automatic coating techniques for various emulsions, mesh types and definition requirements.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Types of machines</i> may include:	<ul style="list-style-type: none"> automatic coating equipment commonly used in the screen printing sector.
<i>Type of stencil materials</i> may include:	<ul style="list-style-type: none"> direct stencil materials commonly used relative to the industry sector.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> work is performed under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP337D Prepare stencil using photographic capillary method

Modification History

Release	Comments
Release 1	<p>This Unit first released with <i>ICP10 Printing and Graphic Arts Training Package</i> version 2.0.</p> <p>Critical aspects of evidence corrected to reflect unit focus (capillary stencils and associated methodology), version identifier changed.</p> <p>Replaces ICPSP337C Prepare stencil using photographic capillary method.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare photographic capillary stencils.

Application of the Unit

This unit requires the individual to prepare photographic capillary stencils.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit of competency.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Prepare the work area	<p>1.1 Work area is made clean and functional prior to the commencement of work</p> <p>1.2 All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work</p> <p>1.3 Chemicals are prepared, if necessary, according to OHS requirements and manufacturer's/supplier's specifications</p>
2. Prepare the screen	<p>2.1 Screen is selected according to job specifications</p> <p>2.2 Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications</p>
3. Select and process capillary film	<p>3.1 Capillary film is selected according to requirements for ink type, print resolution, substrate and machine type with minimisation of waste</p> <p>3.2 Capillary film is cut to size according to OHS requirements and manufacturer's/supplier's specifications with minimisation of waste</p> <p>3.3 Capillary film is mounted on screen according to manufacturer's/supplier's specifications</p> <p>3.4 Screen is dried according to manufacturer's/supplier's specifications and <i>enterprise procedures</i></p> <p>3.5 Backing sheet is removed according to manufacturer's/supplier's specifications</p>
4. Process material	<p>4.1 Screen is placed in vacuum frame with positive positioned according to manufacturer's/supplier's specifications and job specifications</p> <p>4.2 Exposure is calculated and <i>stencil</i> exposed according to manufacturer's/supplier's specifications</p> <p>4.3 Light source is positioned according to manufacturer's/supplier's specifications</p> <p>4.4 Exposed screen is removed from vacuum frame according to OHS requirements and manufacturer's/supplier's specifications</p> <p>4.5 Exposed screen is washed out according to OHS requirements and manufacturer's/supplier's specifications</p>
5. Dry stencil	<p>5.1 Processed stencil is dried according to manufacturer's/supplier's specifications</p> <p>5.2 Backing sheet is carefully removed and stencil checked for</p>

	full adhesion
6. Block out screen	<p>6.1 Stencil is inspected for flaws, scum and/or orientation</p> <p>6.2 Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications</p> <p>6.3 Pinholes are spotted out with suitable filler and faulty/damaged images are retouched and taped according to ink type and job specifications</p>
7. Store screen	<p>7.1 Prepared screen is labelled according to enterprise specifications</p> <p>7.2 Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling prepared screens
- collecting, analysing and organising information by selecting the appropriate capillary fill-in according to job specifications
- planning and organising activities by positioning light source prior to exposing the screen
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by cutting capillary fill-in to size according to job specifications
- problem-solving skills by retouching and taping damaged images
- use of technology by using the vacuum frame and other equipment to prepare the stencil.

Required knowledge

- health hazards and what safe working procedures should be in place when degreasing screens
- significance of mesh count
- need to have the correct tension on the screen
- best screen mesh count for the application of a capillary stencil
- chemicals that are used for degreasing screens
- maintenance procedures that are there in place for equipment in the stencil preparation area
- peculiarities of photographic capillary stencils
- type of capillary film to be used
- pollution and environmental concerns that are addressed when working with capillary films
- wetting agents that are used to facilitate the application of the film to the screen
- problems that are caused by dust on the surface of the mesh
- position of film on the screen
- problems that can occur from poor or incorrect mounting techniques
- rectification of problems associated with mounting capillary film
- OHS concerns that are there when exposing stencils
- correct drying distance and drying time
- effects of incorrect drying temperature
- factors that indicate that drying is complete
- need to dry film under safelight conditions
- removal of the backing sheet removed
- function and use of a light integrator
- effect that the position, angle and distance of the light source has on the exposure process
- effect that temperature, pressure and time taken has on the washing out process
- importance of blotting up excess water from the stencil to prevent scum and streaking
- completion of drying
- bearing the ink used and the type of stencil on the type of blackout

- preventive measures that can be taken to prevent pinholes
- need to tape the edge of the frame
- means that the screen is able to be identified at a later date
- maintenance that should be carried out on exposing, washing and drying equipment
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare photographic capillary stencils according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different screens by applying a capillary stencil and exposing, washing, drying and blocking out according to manufacturer and job specifications, enterprise procedures and the listed performance criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended for example:</p> <ul style="list-style-type: none"> • any basic set up units.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Type of stencil materials</i> may include:	<ul style="list-style-type: none"> capillary stencil materials commonly used relative to the industry sector.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> work is performed under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Screen Printing

ICPSP339C Prepare stencil using direct projection method

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare photographic capillary stencils.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly prepare direct projection stencils.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Chemicals are prepared, if necessary, according to OHS requirements and manufacturer's/supplier's specifications 1.4. Appropriate <i>coating</i> trough (or troughs for automatic coaters) is selected ensuring they are free of nicks and burrs
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications
3. Select emulsion	3.1. Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type with minimisation of waste 3.2. Emulsion is checked for expiry date and appropriate action taken 3.3. Emulsion is prepared according to OHS requirements, and manufacturer's/supplier's specifications 3.4. Emulsion is used and dried according to manufacturer's/supplier's specifications
4. Process material	4.1. Coated screen is positioned on projection frame holder according to manufacturer's/supplier's specifications 4.2. Projection light source equipment is positioned according to manufacturer's/supplier's specifications 4.3. The positive is positioned into the projection light source which is then set up to desired <i>enlargement</i> according to manufacturer's/supplier's specifications 4.4. Exposed screen is removed from positioning frame according to OHS requirements and manufacturer's/supplier's specifications 4.5. Exposed screen is washed out according to OHS requirements and manufacturer's/supplier's specifications 4.6. Processed <i>stencil</i> /screen is inspected for processing

ELEMENT	PERFORMANCE CRITERIA
	flaws
5. Dry stencil	5.1. Processed stencil is dried according to manufacturer's/supplier's specifications 5.2. Backing sheet is carefully removed and stencil checked for full adhesion
6. Block out screen	6.1. Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications 6.2. Stencil is inspected for flaws, scum and/or orientation 6.3. Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7. Store screen	7.1. Prepared screen is labelled according to <i>enterprise specifications</i> 7.2. Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling prepared screens
- collecting, analysing and organising information by drying and using emulsion according to supplier's instructions
- planning and organising activities by preparing the emulsion prior to processing the material
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by correctly preparing chemicals
- problem-solving skills by blocking out non-image areas of the screen and spotting out pinholes
- use of technology by using various items of equipment to prepare direct projection stencils

Required knowledge

- influence that mesh count has on final printed product
- need to have a correctly tensioned screen
- screen tension that is required on screens of various mesh count or grades
- degreasing/cleaning techniques that are employed prior to coating the screen
- information that is contained in MSDSs for the emulsion
- pollution and environmental issues that need to be considered when working with emulsions
- maintenance that is required on the direct projection camera
- need to work in a safelight area when using the direct projection method
- kinds of high sensitivity emulsion that are available and state their characteristics, lifespans and areas of use
- preparation method for the emulsion you are using
- influence that the length of run and ink being used have on the coating technique
- number of coats of emulsion and the best method of coating the screen
- best position (horizontal or vertical) for drying the screen
- effect of heat on the emulsion during the drying process
- OHS concerns that are there when exposing the screen
- operating features of the direct projection camera
- setting the enlargement factor and take into account registration on the frame for the appropriate printing machine
- exposure techniques that are used and how do you calculate exposure time
- exposure procedures

REQUIRED SKILLS AND KNOWLEDGE

- effect of temperature, pressure and period of washing on the emulsion
- determining when washing out is complete
- ideal position of the screen for drying to prevent scum and streaking
- post-curing effect on the stencil
- information that is obtained from the MSDSs for this particular blackout
- ink to be used and the type of stencil that have a bearing on the type of blackout
- what preventive measures can be taken to minimise pinholes?
- need to tape the edge of the frame
- means by which is this screen able to be identified at a later date
- manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare direct projection stencils according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different screens using the direct projection method according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended for example:</p> <ul style="list-style-type: none"> • any basic set up units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Coating techniques</i> may include:	<ul style="list-style-type: none"> coating techniques for various emulsions, mesh types and edge definition requirements.
<i>Enlargements</i> may include:	<ul style="list-style-type: none"> ability to determine and set enlargement criteria within the variable parameters of the equipment commonly used relative to the industry sector.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Type of stencil materials</i> may include:	<ul style="list-style-type: none"> direct emulsion commonly used in direct projection relative to the industry sector.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> work is performed under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP341C Prepare stencil using direct electronic imaging method

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct electronically imaged stencils.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare direct electronically imaged stencils.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Chemicals are prepared, if necessary, according to OHS requirements and manufacturer's/supplier's specifications 1.4. Appropriate <i>coating</i> trough (or troughs for automatic coaters) is selected ensuring they are free of nicks and burrs
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications
3. Select direct emulsion	3.1. Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type with minimisation of waste 3.2. Emulsion is checked for expiry date and appropriate action taken 3.3. Emulsion is prepared according to OHS requirements, and manufacturer's/supplier's specifications 3.4. Emulsion is used and dried according to manufacturer's/supplier's specifications
4. Process material	4.1. Coated screen is placed in direct imaging equipment according to manufacturer's/supplier's specifications 4.2. Direct imaging equipment is set up according to manufacturer's/supplier's and job specifications 4.3. Direct imaging equipment is operated according to OHS requirements, and manufacturer's/supplier's specifications 4.4. Exposed screen is removed and washed out according to OHS requirements and manufacturer's/supplier's specifications 4.5. Processed <i>stencil</i> /screen is inspected for processing flaws
5. Dry stencil	5.1. Processed stencil is dried according to manufacturer's/supplier's specifications 5.2. Backing sheet is carefully removed and stencil

ELEMENT	PERFORMANCE CRITERIA
	checked for full adhesion
6. Block out screen	6.1. Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications 6.2. Stencil is inspected for flaws, scum and/or orientation 6.3. Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7. Store screen	7.1. Prepared screen is labelled according to <i>enterprise specifications</i> 7.2. Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling prepared screens
- collecting, analysing and organising information by drying and using emulsion according to supplier's instructions
- planning and organising activities by drying the stencil prior to blocking out the screen
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by correctly preparing chemicals
- problem-solving skills by inspecting the stencil for flaws, scum and/or orientation
- use of technology by using relevant equipment to prepare direct electronically imaged stencils

Required knowledge

- influence that mesh count has on final printed product
- need to have a correctly tensioned screen
- screen tension that is required on screens of various mesh count or grades
- degreasing/cleaning techniques that are employed prior to coating the screen
- information that is contained in MSDSs for the emulsion
- pollution and environmental issues that need to be considered when working with emulsions
- maintenance that is required on the direct projection camera
- need to work in a safelight area when using the direct projection method
- kinds of high sensitivity emulsion that are available and state their characteristics, lifespans and areas of use
- preparation method for the emulsion you are using
- influence that the length of run and ink being used have on the coating technique
- number of coats of emulsion and the best method of coating the screen
- best position (horizontal or vertical) for drying the screen
- effect of heat on the emulsion during the drying process
- OHS concerns that are there when exposing the screen
- operating features of the direct projection camera
- best position on the frame and the registration requirements
- scanning speed and the exposure time
- inputting information into the computer, manipulation of the image and output information

REQUIRED SKILLS AND KNOWLEDGE

- effect of temperature, pressure and period of washing on the emulsion
- determining when washing out is complete
- ideal position of the screen for drying to prevent scum and streaking
- post-curing effect on the stencil
- information that is obtained from the MSDSs for this particular blackout
- ink to be used and the type of stencil that have a bearing on the type of blackout
- what preventive measures can be taken to minimise pinholes?
- need to tape the edge of the frame
- means by which is this screen able to be identified at a later date
- manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • correctly prepare direct electronically imaged stencils according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different screens using direct electronic imaging techniques according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Coating techniques</i> may include:	<ul style="list-style-type: none"> appropriate coating techniques for various emulsions, mesh types and edge definition requirements.
<i>Type of stencil materials</i> may include:	<ul style="list-style-type: none"> direct emulsion commonly used in direct projection relative to the industry sector.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working to defined procedures in consultation with other relevant persons to ensure production procedures are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPSP351C Prepare machine and drying/curing unit

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare a manual, semi-automatic or automatic machine for printing and set up drying and/ or curing units.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare machines for printing and set up drying and/or curing units.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Inspect the screen	1.1. Screen frames are identified to determine colour sequence 1.2. Each screen frame is examined for defects and appropriate action taken 1.3. Each screen is taped as necessary 1.4. Screens are inspected against film positives noting variations in centring, registration and alignment and appropriate action is taken 1.5. Screen frame, mesh and stencil are appropriately handled according to manufacturer's/supplier's specifications to prevent damage and hazards to personnel
2. Maintain and adjust machine	2.1. Machine is inspected and routine user maintenance is carried out according to manufacturer's/supplier's specifications and enterprise procedures 2.2. All necessary periodic adjustments and user maintenance items are made at the correct times according to manufacturer's /supplier's specifications and enterprise procedures
3. Install screen frames and dry run machine	3.1. Laysheet is positioned in grippers and side-lay according to manufacturer's/supplier's specifications 3.2. Image position is established on laysheet 3.3. Screen frame is positioned in screen frame holder 3.4. Registration, alignment and centring are confirmed and screen clamps tightened to ensure no movement of the frame according to manufacturer's/supplier's specifications 3.5. Machine is run through printing cycle at the same time ensuring that substrate registers in lays and appropriate action is taken
4. Prepare and position flood bar and squeegees	4.1. Flood bar (for semi-automatic and automatic machines) and correct squeegee are assembled according to manufacturer's/supplier's specifications ensuring that flood bar is free from nicks and burrs 4.2. Squeegee blade is sharpened according to manufacturer's/supplier's specifications considering the ink system to be used 4.3. Flood bar (for semi-automatic and automatic machines) and squeegee are positioned according to job specifications with squeegee at the correct

ELEMENT	PERFORMANCE CRITERIA
	pre-determined angle 4.4. On/off contact (and peel-off if available) is adjusted to suit ink system and printing speed according to manufacturer's/supplier's specifications 4.5. Squeegee is correctly adjusted and brought into contact with the substrate
5. Set up drying/curing unit	5.1. Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit 5.2. Stock is properly stacked at the end of the dryer

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by taking relevant appropriate actions when screen defects are identified
- collecting, analysing and organising information by identifying screen frames to determine colour sequence
- planning and organising activities by inspecting the screens before installing the frames
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by setting belt speed and energy levels
- problem-solving skills by inspecting machines and performing basic maintenance
- use of technology by maintaining and adjusting the machines

Required knowledge

- colour sequence
- defects that can be found when examining the screen and stencil
- variation between the positive and stencil
- OHS concerns that are there when using drying and curing units
- maintenance that is required on this equipment
- periodic adjustments that are made to the equipment and drying/curing units
- machine capabilities and characteristics
- function of the printing base
- position of the lay sheet on the printing base
- image position on the lay sheet
- type of lay sheet being used
- position of the frame in the frame holder and registering and alignment of the stencil with the image on the lay sheet
- checks that are required so as to maintain register
- characteristics of a good squeegee blade/flood coater
- significance of shore hardness of squeegee material
- length squeegee/flood coater
- positioning, fixing and adjustment of the squeegee/flood coater
- relationship of the squeegee to the flood coater
- adjustment of on/off contact distance and peel-off requirements of the screen frame
- relationship of the machine stroke to off contact/peel-off requirements
- basic maintenance requirements for the drying/curing unit

REQUIRED SKILLS AND KNOWLEDGE

- adjustments that are required to the unit before and during drying/curing
- adjustment to the unit for ink drying/curing
- effects of temperature on the substrate
- machine manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> correctly set up printing machines and drying or curing units according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources prepare a machine for printing TWO different jobs by installing the screen frame and squeegee/flood coater and setting up a drying/curing unit to achieve the desired properties, according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU207C Prepare machine for operation (basic) any basic set up units. <p>It may be appropriate to assess this unit in conjunction with a produce print unit, for example:</p> <ul style="list-style-type: none"> ICPSP271C Manually produce basic screen prints ICPSP273C Semi-automatically produce basic screen

EVIDENCE GUIDE

	<p>prints</p> <ul style="list-style-type: none"> • ICPSP275C Automatically produce basic screen prints • ICPSP371C Manually produce complex screen prints • ICPSP373C Semi-automatically produce complex screen prints • ICPSP375C Automatically produce complex screen prints.
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Type of machine</i> may include:	<ul style="list-style-type: none"> • commonly used hand tables/machines/dryers/curing units relative to the industry sector.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • tasks must be performed according to enterprise procedures.
<i>Degree of cure/drying</i> may include:	<ul style="list-style-type: none"> • assessing the degree of cure or drying required to obtain required product properties.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> • working to defined procedures in consultation with other relevant persons to ensure production procedures are met.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP371C Manually produce complex screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manually produce three- or more colour screen prints.
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Application of the Unit

Application of the unit	This unit requires the individual to manually produce three- or more colour screen prints.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1.Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2.Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1.Ink is applied to the screen in the quantity required for the screen size 2.2.Equipment is kept clean and spillage is minimised 2.3.Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1.Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2.Adjustments are made as required 3.3. Appropriate approval to commence production is sought prior to commencement 3.4.Belt speed and energy required are set to achieve desired properties
4. Run job and monitor print quality	4.1.Printing speed production is adjusted to maximise quality and output 4.2.Print quality is continuously evaluated and adjusted as required 4.3.Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications 4.4.Workplace documentation on job is completed as required 4.5.Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications
5. Carry out routine user maintenance	5.1.Equipment is lubricated, cleaned and adjusted according to manufacturer's/supplier's specifications 5.2.Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	6.1.Output is checked for thorough drying/curing before stacking 6.2.Job status and progress are checked for conformance to job specifications and any necessary action is taken

ELEMENT	PERFORMANCE CRITERIA
7. Finish operation	7.1.Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications 7.2.Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures 7.3.Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by completing workplace documentation
- collecting, analysing and organising information by checking substrate for conformance to job specifications
- planning and organising activities by producing a proof print prior to doing the job run
- teamwork when seeking approval prior to commencement of the job run
- mathematical ideas and techniques by setting the belt speed and required energy
- problem-solving skills by continuously evaluating and adjusting print quality
- use of technology by using the various equipment and machinery required to produce prints

Required knowledge

- criteria for selecting the correct substrate for the job
- ink and substrate compatibility
- characteristics of solvents and ink additives and determining compatibility
- adjustments necessary on the equipment prior to setting up
- routine user maintenance that is required for this equipment
- method that is used for checking the screen, ink, substrate and squeegee prior to printing
- maintenance that is required on the printing base
- lay edge on the equipment
- correct position, register and lock of the screen in position
- selection of squeegee to be use
- off contact distance
- selection of drying/curing system to print/cure this job
- speed/temperature of the unit
- routine maintenance that is required on this unit
- OHS concerns that are there when producing a manual print
- need to condition some substrates
- correct viscosity of ink
- rectification of the problem of alteration to ink viscosity during the run
- evaluation and maintenance of print quality during the run
- ideal printing rate on this equipment
- procedure that you have for checking and stacking production output

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• correct procedure for removing ink without damaging the screen• correct method of cleaning squeegees, equipment and the surrounding area• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents• other sources of information that are available |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> manually produce a three- or more colour screen print according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources manually produce TWO different multi-colour print runs according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU202C Prepare, load and unload product on and off machine ICPSP351C Prepare machine and drying/curing unit any basic set up units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> drying systems commonly used and relative to the industry sector.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Types of techniques</i> may include:	<ul style="list-style-type: none"> manual screen printing techniques relative to the industry sector.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> multi-colour jobs.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP373C Semi-automatically produce complex screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex screen prints using semi-automatic machines.
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Application of the Unit

Application of the unit	This unit requires the individual to produce complex screen prints using semi-automatic machines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1.Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2.Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1.Ink is applied to the screen in the quantity required for the screen size 2.2.Equipment is kept clean and spillage is minimised 2.3.Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1.Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2.Adjustments are made as required 3.3. Appropriate approval to commence production is sought prior to commencement 3.4.Belt speed and energy required are set to achieve desired properties
4. Run job and monitor print quality	4.1.Printing speed production is adjusted to maximise quality and output 4.2.Print quality is continuously evaluated and adjusted as required 4.3.Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications 4.4.Workplace documentation on job is completed as required 4.5.Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications
5. Carry out routine user maintenance	5.1.Equipment is lubricated, cleaned and adjusted according to manufacturer's/supplier's specifications 5.2.Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	6.1.Output is checked for thorough drying/curing before stacking 6.2.Job status and progress are checked for conformance to job specifications and any necessary action is taken

ELEMENT	PERFORMANCE CRITERIA
7. Shut down machine	7.1.Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications 7.2.Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures 7.3.Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by obtaining approval to commence a production run
- collecting, analysing and organising information by checking the substrate for conformance to the job specifications
- planning and organising activities by producing a proof print prior to running a job
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by setting the belt speed and required energy
- problem-solving skills by continuously evaluating and adjusting print quality
- use of technology by using semi-automatic and computerised machines to produce screen prints

Required knowledge

- criteria for selecting the correct substrate for the job
- ink and substrate compatibility
- characteristics of solvents and ink additives and determining compatibility
- adjustments that are necessary to the machine prior to setting up
- maintenance that is required on this machine prior to the commencement of printing
- procedure that you use for checking the screen sequence of colours, ink, substrate and squeegee/flood coater prior to printing
- function of the printing base and maintenance that is required
- determining the lay edge and gripper/take-off edge of the substrate
- correct positioning, registering and locking the screen in position
- selection of the squeegee/shore hardness and flood coater to be used
- need to adjust the off contact/peel-off requirements of the screen
- OHS requirements when working with infra red/UV curing units
- speed/temperature of the unit
- routine maintenance that is required on this unit
- OHS concerns that are there when using a semi-automatic machine
- effect that humidity level has on print procedure
- correct viscosity of the ink prior to printing
- rectification of the change in the viscosity of the ink during a production run
- evaluation and maintenance of the print quality during the run
- ideal printing rate for this substrate on this machine

REQUIRED SKILLS AND KNOWLEDGE

- stacking of production output (ie flat or on-edge)
- effect that environmental conditions have on output capacity
- need to determine the exact count and to record production details on the job sheet
- health hazards associated with inks and solvents
- correct procedure for removing ink without damaging the screen
- correct method of cleaning squeegees/flood coater machine and surrounding area
- maintenance that is required on this machine after printing
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to job specifications demonstrate use of computerised control, monitoring and data entry systems if available and appropriate demonstrate an ability to find and use information relevant to the task from a variety of information sources produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> drying systems commonly used and relative to the industry sector.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.
<i>Type of machine</i> may include:	<ul style="list-style-type: none"> semi-automatic and computerised screen printing machines relative to the industry sector.
<i>Complexity</i> may include:	<ul style="list-style-type: none"> multi-colour jobs.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> working to defined procedures in consultation with other relevant persons to ensure production procedures are met.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP374C Operate a semi-automatic screen printing machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a print on a range of common substrates, using semi-automatic equipment and screening techniques.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a print on a range of common substrates, using semi-automatic equipment and screening techniques.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	<p>1.1. Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified</p> <p>1.2. Ink is checked for conformance to job specifications</p> <p>1.3. Stencil is checked for conformance to job specifications</p>
2. Prepare machine to print	<p>2.1. Substrate position and stencil registration are adjusted according to job specifications</p> <p>2.2. Ink is applied to the screen in the quantity required for the screen size</p> <p>2.3. Equipment is kept clean and spillage is minimised</p>
3. Produce proof print	<p>3.1. A proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing, artwork detail and other technical aspects according to job specifications</p> <p>3.2. Adjustments are made according to product and machine specifications</p> <p>3.3. Belt speed and energy required are set to achieve desired curing or drying properties</p> <p>3.4. Appropriate approval to commence production is sought prior to commencement</p>
4. Run job and monitor print quality	<p>4.1. Printing speed production is adjusted to maximise quality and output</p> <p>4.2. Print quality is continuously evaluated and adjusted as required</p> <p>4.3. Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures</p> <p>4.4. Workplace documentation on job is completed as required</p> <p>4.5. Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications</p>
5. Carry out routine user maintenance	<p>5.1. Equipment is cleaned according to enterprise procedures</p> <p>5.2. Fault conditions are identified and reported according to enterprise procedures</p>
6. Stack production output	<p>6.1. Output is checked for thorough drying/curing before stacking</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>6.2. Job identification is labelled and recorded</p> <p>6.3. Job status and progress are checked for conformance to job specifications and any necessary action is taken</p>
<p>7. Conduct shutdown of the production process</p>	<p>7.1. Material is transferred to correct destination in a safe manner</p> <p>7.2. Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications</p> <p>7.3. Waste materials and chemicals are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures</p> <p>7.4. Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>7.5. Tools and equipment are stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety</p> <p>7.6. The correct procedure for dealing with spilt chemicals is demonstrated according to OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by completing workplace documentation
- collecting, analysing and organising information by checking technical aspects of the proof print
- planning and organising activities by organising materials and equipment in the correct order for the print run
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by making adjustments according to product and machine specifications
- problem-solving skills by applying procedural checks throughout the print run
- use of technology by using semi-automatic screen printing machines

Required knowledge

- process for recording and reporting any substrate irregularities
- process for checking for ink compatibility
- criteria to be used to check the stencil compatibility
- limitations when setting the substrate position
- precautions when applying ink to the screen
- products and materials that are used to keep the equipment clean
- OHS concerns when producing a semi-automatic print
- quality control devices that are used to check the print standards
- variables/tolerances needing to be aware of when checking the print to the proof
- relationship between ink film thickness and ink density
- maximum and minimum ink densities permissible
- properties that determine belt speed
- properties that determine heat unit setting for curing
- final approval before commencing the production run
- quality inspection during printing
- regularity of inspecting for quality
- monitoring ink during the print run
- purpose of workplace documentation
- OHS concerns in relationship to monitoring drying/curing systems?
- maintenance that should be carried out on this machine
- expected result of not reporting faulty equipment
- result of stacking while the ink film is still wet

REQUIRED SKILLS AND KNOWLEDGE

- advantages of labelling prior to removal
- result of not taking action if problems occur with the progress of the job
- advantages that result from proper labelling and storage of excess inks and materials
- OHS practices that must be adhered to when reclaiming screens
- result of not keeping screens and squeegees clean
- result of not following correct procedures when disposing of liquid waste
- result of not keeping equipment and surrounding areas clean
- storing screens to minimise damage
- documentation dealing with spilt chemicals

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up screen printing machinery and produce a print on a range of common substrates using semi-automatic equipment according to job specifications • complete TWO different jobs on a semi- automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to appropriate equipment and materials.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU203C Prepare and maintain the work area • ICPSU216C Inspect quality against required standards • ICPSU261C Follow OHS practices and identify environmental hazards • any basic set up unit.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate</i> may include:	<ul style="list-style-type: none"> material or substance that will hold an image.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, work tickets or processing orders.
<i>Drying/curing</i> may include:	<ul style="list-style-type: none"> semi-automatic drying systems commonly used in industry sector.
<i>Appropriate approval</i> may include:	<ul style="list-style-type: none"> enterprise or client approval from supervising personnel.
<i>Workplace documentation</i> may include:	<ul style="list-style-type: none"> enterprise procedural documents.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP375C Automatically produce complex screen prints

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to automatically produce complex screen prints.
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Application of the Unit

Application of the unit	This unit requires the individual to produce complex screen prints using automatic machines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1. Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2. Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1. Ink is applied to the screen in the quantity required for the screen size 2.2. Equipment is kept clean and spillage is minimised 2.3. Colour is mixed and ink is checked for conformance to job specifications 2.4. Feeder is set and adjusted to suit substrate
3. Produce proof print	3.1. Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2. Adjustments are made according to product and machine specifications 3.3. Appropriate approval to commence production is sought prior to commencement 3.4. Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1. Printing speed production is adjusted to maximise quality and output 4.2. Print quality is continuously evaluated and adjusted as required 4.3. Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications 4.4. Workplace documentation on job is completed as required 4.5. Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications
5. Carry out routine user maintenance	5.1. Equipment is lubricated, cleaned and adjusted according to manufacturer's/supplier's specifications 5.2. Fault conditions are identified and reported according to enterprise procedures
6. Handle production	6.1. Output is checked for thorough drying/curing before

ELEMENT	PERFORMANCE CRITERIA
output	stacking 6.2. Job status and progress are checked for conformance to job specifications and any necessary action is taken
7. Shut down machine	7.1. Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications 7.2. Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures 7.3. Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by gaining approval to commence a production run
- collecting, analysing and organising information by checking job status and progress according to job specifications
- planning and organising activities by following machine shutdown procedures
- teamwork when completing workplace documentation as required
- mathematical ideas and techniques by adjusting print speed to maximise quality
- problem-solving skills by monitoring and responding to the effect of ink alterations
- use of technology by operating automatic and computerised screen printing machines

Required knowledge

- adjustments that are necessary to the machine prior to setting up
- maintenance that is required on the machine and feeder prior to the commencement of printing
- adjustments that need to be made to the machine/feeder to allow for characteristics of the substrate
- procedure that is in place to confirm the screen sequence of colour, ink, substrate and squeegee/flood coater prior to printing
- system for setting the feed board and loading substrate
- need to prepare substrate or item when loading the feeder
- adjustment of the stock feed system for this machine
- system that is in place to check the substrate is fed into the machine at the required production speed without damage, distortion or variation in position
- criteria for selecting the right substrate for the job
- ink and substrate compatibility
- characteristics of solvents and ink additives and compatibility to this ink system
- correctly positioning, registering and the screen locking into position
- positioning the squeegee/flood coater
- adjustment of the on/off contact/peel-off requirements of the frame
- shore hardness of the squeegee blade and why have you chosen it
- relationship between ink deposit, squeegee speed and belt speed/temperature of the drying/curing unit
- OHS requirements when working with infra-red/UV curing units
- routine maintenance you undertake on this drying/curing unit

REQUIRED SKILLS AND KNOWLEDGE

- ink drying/ink curing characteristics
- OHS concerns that are there when using an automatic machine
- assessment of to colour to ensure it conforms to job specifications
- check made on the initial proof run before continuing
- evaluation of print quality and substrate feeding during the run
- ideal printing speed for this substrate on this machine
- effect of humidity on the substrate
- maintenance of the correct viscosity of ink during the run
- ways to determine if print is dried/cured before handling
- production output handling to prevent offsetting of ink, blocking, sweating or rewetting of ink
- effect that weather conditions could have on output capacity
- need to determine the exact count and to record production details on the job sheet
- health hazards associated with ink/solvents
- correct procedure for removing the ink without damaging the screen
- correct method of cleaning squeegees/flood coaters, machine and surrounding area
- maintenance that is required on this machine after printing is completed
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> produce a complex print of more than two colours containing line and tone using an automatic machine according to job specifications demonstrate an ability to find and use information relevant to the task from a variety of information sources produce a complex print of more than two colours containing line and tone using an automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria demonstrate use of computerised control, monitoring and data entry systems if available and appropriate for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Drying/curing units</i> may include:	<ul style="list-style-type: none"> drying systems commonly used and relative to the industry sector.
<i>Type of machine</i> may include:	<ul style="list-style-type: none"> automatic and computerised screen printing machines with three or more colours relative to the industry sector.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> initiative and judgement in working in consultation with other persons to ensure production requirements are met.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> tasks must be performed according to enterprise procedures.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP376C Operate an automatic screen printing machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a print on a range of common substrates, using automatic equipment and screening techniques.
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Application of the Unit

Application of the unit	This unit requires the individual to produce a print on a range of common substrates, using automatic equipment and screening techniques.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1. Substrate is checked for conformance to job specifications with any irregularities reported and/or rectified 1.2. Ink is checked for conformance to job specifications 1.3. Artwork is checked for conformance to job specifications
2. Prepare machine to print	2.1. Correct film/emulsion exposure is set and correctly completed according to job specifications 2.2. Substrate position and screen alignment are set according to job specifications 2.3. Ink is applied to the screen in the quantity required for the screen size 2.4. Equipment is kept clean and spillage is minimised
3. Produce proof print	3.1. A proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying/curing , artwork detail and other technical aspects according to job specifications 3.2. Adjustments are made according to product and machine specifications 3.3. Belt speed and temperature required are set to achieve desired curing or drying properties 3.4. Appropriate approval to commence production is sought prior to commencement
4. Run job and monitor print quality	4.1. Printing speed production is adjusted to maximise quality and output 4.2. Print quality is continuously evaluated and adjusted as required 4.3. Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's/supplier's and job specifications 4.4. Workplace documentation on job is completed as required 4.5. Curing and drying are constantly monitored and adjusted according to manufacturer's/supplier's and job specifications
5. Carry out routine user maintenance	5.1. Equipment is cleaned according to enterprise procedures 5.2. Lights are replaced as necessary and alerts/alarms are tested

ELEMENT	PERFORMANCE CRITERIA
	5.3. Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	<p>6.1. Output is checked for thorough drying/curing before stacking</p> <p>6.2. Job is labelled and recorded according to enterprise procedures</p> <p>6.3. Job status and progress are checked for conformance to job specifications and any necessary action is taken</p>
7. Conduct shutdown of the production process	<p>7.1. Material is transferred to correct destination in a safe manner</p> <p>7.2. Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's/supplier's specifications</p> <p>7.3. Waste materials are disposed of according to manufacturer's/supplier's specifications, regulatory requirements and enterprise procedures</p> <p>7.4. Equipment and surrounding areas are cleaned according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>7.5. Tools and equipment are stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety</p> <p>7.6. The correct procedure for dealing with spilt chemicals is demonstrated according to OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by seeking appropriate approval to commence production
- collecting, analysing and organising information by checking technical aspects of the proof print
- planning and organising activities by organising materials and equipment in the correct order for the print run
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by making adjustments according to product and machine specifications
- problem-solving skills by monitoring and responding to the effect of ink alterations
- use of technology by operating automatic screen printing machines

Required knowledge

- process of recording and reporting any substrate irregularities
- checks for ink compatibility
- criteria used to check the stencil compatibility
- limitations that you have when setting the substrate position
- precautions that need to be undertaken when applying ink to the screen
- products and materials that are used to keep the equipment clean
- OHS concerns that are there when producing an automated print run
- quality control devices that are used to check the print standards
- variables/tolerances that you need to be aware of when checking the print to the proof
- relationship between ink film thickness and ink density
- maximum and minimum ink densities permissible
- properties that determine belt speed
- properties that determine heat unit setting for curing
- responsibility for the final approval before commencing the production run
- quality inspection that occurs during printing
- frequency of inspections for quality
- ink monitoring during the print run
- purpose of workplace documentations
- OHS concerns that are there in relationship to monitoring drying/curing systems
- maintenance that should be carried out on this machine

REQUIRED SKILLS AND KNOWLEDGE

- expected result of not reporting faulty equipment
- result of stacking while the ink film is still wet
- advantages of labelling prior to removal
- result of not taking action if problems occur with the progress of the job?
- advantages that result from proper labelling and storage of excess inks and materials
- OHS practices that must be adhered to when reclaiming screens
- result of not keeping screens and squeegees clean
- result of not following correct procedures when disposing of liquid waste
- result of not keeping equipment and surrounding areas clean
- storage of screens so as to minimise damage
- location of documentation dealing with spilt chemicals

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • set up screen printing machinery and produce a print on a range of common substrates using automatic equipment according to job specifications • complete TWO different jobs on an automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely replicated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate</i> may include:	<ul style="list-style-type: none"> t-shirts, tote bags, binders, hats, boxes, CD-ROMs, DVDs.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, work tickets or processing orders.
<i>Drying/curing unit</i> may include:	<ul style="list-style-type: none"> manual/semi-automatic drying systems commonly used in specific industry sections.
<i>Appropriate approval</i> may include:	<ul style="list-style-type: none"> enterprise or client approval from supervising personnel.
<i>Workplace documentation</i> may include:	<ul style="list-style-type: none"> enterprise procedural documents.
<i>Automatic equipment</i> may include:	<ul style="list-style-type: none"> up to six colours, with exposure unit, curing unit, screen alignment system and conveyor drying system.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

ICPSP382C Produce computer image for screen printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to generate electronic art to a supplied layout film positive or computer cut stencil.
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Application of the Unit

Application of the unit	This unit requires the individual to generate electronic art to a supplied layout film positive or computer cut stencil.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for scanning	<p>1.1. The original is scaled to conform to job specifications</p> <p>1.2. The original is assessed to determine scanner settings</p> <p>1.3. The original is cleaned and correctly mounted according to job specifications</p> <p>1.4. The correct settings are selected for the original to be scanned</p>
2. Scan and check the image	<p>2.1. The original is scanned according to quality requirements</p> <p>2.2. The quality of the scanned image is checked for conformance to the job specifications</p> <p>2.3. The appropriate software is applied for any processing of text if necessary</p>
3. Prepare the combining strategy	<p>3.1. The required data from electronic files is accessed</p> <p>3.2. The appropriate application is opened to undertake combining tasks</p> <p>3.3. The required fonts are accessed according to job specifications</p>
4. Combine data	<p>4.1. Page layout size is created according to job specifications</p> <p>4.2. Elements are placed in the page according to job specifications</p> <p>4.3. Trapping (spread and chokes) is applied according to job specifications</p> <p>4.4. Step and repeat function is accessed according to job specifications</p> <p>4.5. Elements are stepped according to job specifications</p> <p>4.6. The output menu is configured according to job specifications</p>
5. Access and maintain the output device	<p>5.1. Output devices are set up and maintained according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.2. Suitable material is identified and loaded into the output device</p>
6. Output the image	<p>6.1. The system is activated to initiate the output according to job specifications</p> <p>6.2. Quality is monitored according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting the job specifications
- collecting, analysing and organising information by scanning the image and combining it with data
- planning and organising activities by preparing the correct sequence of operations for the combining tasks
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by working with layout size during combining data
- problem-solving skills by maintaining quality standards during the production process
- use of technology by using relevant hardware and software to produce computer images for screen printing

Required knowledge

- tolerance that is allowed when scaling the original
- common scanner DPI for graphic line images
- use of original angling
- resolution that is used for optical character recognition in scanning
- format that the scan is saved in
- retaining format when OCR scanning
- access to external files
- most appropriate software for this combining task
- procedure if required files are not readily accessible
- responsibility for determines the page layout size
- type of elements that can be used
- application of trapping
- amount of step and repeats in a job
- first step in configuring the output menu
- type of output devices used in screen printing
- range of substrates that are used in output devices
- filing the file prior to the output device
- checks made of techniques used to maintain quality standards

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • scan, electronically combine and attribute outputs to designated devices according to job specifications and client standards • produce TWO separate images on film and /or stencil according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both of these. Off the job assessment must be undertaken in a closely simulated workplace environment • access to appropriate equipment and materials.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • directquestioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Original</i> may include:	<ul style="list-style-type: none"> line graphic or text.
<i>Job specifications</i> may include:	<ul style="list-style-type: none"> job sheets, work tickets or processing orders.
<i>Elements</i> may include:	<ul style="list-style-type: none"> text, headings, rules, pictures, graphics, tints, vignettes, components and shapes.
<i>Material</i> may include:	<ul style="list-style-type: none"> electronic storage, film, papers, fabric or other substrates.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units	

ICPSP383A Prepare film for complex screen printing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to prepare film for screen printing ready for screen manufacture.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit of competency.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who generally work under direction, interpret image specifications and operate equipment to produce film separations according to job specifications ready for screen manufacture.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1. <i>Image specifications</i> are checked according to job specifications and enterprise procedures 1.2. Orientation is checked for conformance to job specifications and adjusted if required 1.3. Resolution/dpi is determined for template creation
2. Prepare and operate equipment	2.1. <i>Scanner</i> /computer is selected, turned on and scanner glass cleaned 2.2. Scanner software is selected/opened and correct settings made according to job requirements 2.3. Previews are made, image is selected, finished scan completed and image adjusted as required 2.4. Image format is determined and saved to a storage device
3. Select Imaging software	3.1. Software is selected, scan is opened and separations are produced on individual layers according to job specifications 3.2. Colours are excluded as required on separation layers 3.3. Stroke is applied for bleed according to printing equipment 3.4. Separation layers are coloured for specific raster image processor (RIP) software 3.5. Image format is determined according to RIP software requirements 3.6. Supplied finished artwork/separation is checked for output capability
4. Select and operate an appropriate output device producing film separations to an industry standard and ready for screen manufacture	4.1. Imagesetter/dye printer is selected, turned on and checked, and heads cleaned prior to outputting images 4.2. RIP software is selected and opened, and software settings checked and set according to output specifications 4.3. Nesting is checked to ensure non-wastage of film 4.4. Image is output and evaluated to ensure it conforms to job specifications and measuring, including checking with a reflection densitometer valve 4.5. Film is handled according to manufacturer's specifications 4.6. Output device is closed down according to manufacturer's recommendations

ELEMENT	PERFORMANCE CRITERIA
5. Access the requirements of particular production exercise in order to meet the process and job specification	5.1. Requirements of the printing process and job specification are assessed 5.2. The quality of job <i>elements</i> , including resolution/dpi is specified according to client requirements 5.3. Films, dye cartridges, their qualities and process requirements are determined 5.4. Stock levels are checked and maintained according to job specifications 5.5. Copy is checked and assessed according to job specifications
6. Prepare and operate equipment able to produce film separations	6.1. Scanner/computer is selected and artwork/copy is placed squarely in the scanner 6.2. Scanner software is selected/opened and correct settings are made according to job requirements 6.3. Previews are made, images selected, finished scan completed and image adjusted as required 6.4. Image format is determined and saved to a storage device
7. Select and use appropriate imaging software	7.1. Software is selected, scan opened and, using layers and software tools as required, separations are provided on individual layers according to job specifications 7.2. Colours are excluded as required on separation layers 7.3. Separate layers are coloured for specific RIP software requirements 7.4. Image/layers or separations are manually nested, if required, in accordance with film output device size 7.5. Image format is determined according to RIP software requirements and saved to storage device 7.6. Supplied finished artwork/separations is checked for output suitability

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- occupational health and safety (OHS) skills for operating machinery, such as safely switching off machinery before cleaning is started
- communication skills for expressing ideas and information and interpreting the brief and job specifications
- planning, collecting, analysing and organising skills for drawing correct design area to include elements according to job specifications
- numeracy skills for calculating the required magnification before operating the equipment
- teamwork skills for maintaining the production process in association with others
- problem-solving skills for implementing required quality controls to ensure job specifications are met
- technical skills for using the equipment necessary to prepare film for screen printing

Required knowledge

- job requirements:
 - image specifications
 - orientation
 - resolutions/dpi
 - substrate and use of product
 - finished size and image location
 - location of printer marks, registration crosses and colour identification
 - image detail, screen ruling related to substrate
 - ink type and equipment available
- preparation and operation of equipment:
 - scanner settings
 - image brightness/contrast
 - file format
 - type of software
 - image/scan and quality adjustment
- output device:
 - checks and maintenance to be performed on an imagesetter/dye printer
 - RIP software settings to be checked prior to ripping
 - output film
 - measuring the halftone value on the film separation

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• techniques for handling film before and after separations• imagesetter/dye printer ability to provide quality separations• RIP software settings• image format• output suitability of artwork• output device• nesting of film separations• techniques for handling film according to manufacturer's specifications |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> produce films according to job specification and client standards prepare film for two different jobs involving a variety of image effects, according to manufacturer's and job specifications and enterprise procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> that conditions are typical ambient conditions found in the workplace access to relevant facilities, equipment required to prepare film for screen printing use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> portfolios of evidence and third party workplace reports of on-the-job performance by the candidate practical demonstration by the candidate in preparing film for screen printing ready for production direct questioning of underpinning knowledge required to prepare for screen printing and OHS issues.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector. Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.</p> <p>For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Image specifications</i> may include:	<ul style="list-style-type: none"> • screen rulings • dot percentages • image thickness/film assessment.
<i>Scanner</i> may include:	<ul style="list-style-type: none"> • flat-bed • drum scanners with medium to high-end full colour capabilities.
<i>Elements</i> may include:	<ul style="list-style-type: none"> • text • headings • rules • components and shapes.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen printing
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Co-requisite units

Co-requisite units		

ICPSU120C Pack product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to pack basic printed or paper products
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Application of the Unit

Application of the unit	This unit requires the individual to correctly pack products safely and without causing damage to the product.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess final product	<p>1.1. Finished job is collected/received and checked against job specifications according to <i>enterprise procedures</i></p> <p>1.2. Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures</p> <p>1.3. Fanning, knock up and splitting of <i>product</i> is performed safely and efficiently to ensure ease of use in next stage</p>
2. Pack product	<p>2.1. Wrapping and <i>packaging</i> materials are prepared according to enterprise procedures</p> <p>2.2. Product is packaged to specification</p> <p>2.3. Packaged goods are checked, weighed and labelled according to delivery instructions and enterprise procedures</p>
3. Prepare stock for next phase	<p>3.1. Product is stacked onto pallets in a predetermined pattern that will stop the product falling or being damaged</p> <p>3.2. If required, the pallet is wrapped and moved safely to another location in predetermined form as appropriate to product size and type</p> <p>3.3. Documentation associated with tasks is accurately completed according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- collecting, analysing and organising information by collecting/receiving and checking finished job against job specifications
- problem-solving skills by identifying defects, irregularities and discrepancies and taking action according to enterprise procedures
- communication of ideas and information by labelling packaged goods according to enterprise procedures
- planning and organising activities by performing safely and efficiently fanning, knock up and splitting of product to ensure ease of use in next stage
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by checking and weighing packaged goods
- use of technology by using pallet wrapping equipment

Required knowledge

- wrapping and packing materials and methods
- OHS regulations on packaged goods
- type of packaging determined
- type of transport or destination have a bearing on the wrapping and packing method
- number of units to be wrapped in each parcel
- details need to be recorded on dispatching labels, and why
- recorded of details when dispatching
- shipping documentation

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare and pack TWO lots of printed or other paper product following correct procedures, job and workplace specifications and the listed Performance Criteria • demonstrate an ability to find and use information relevant to the task from a variety of information sources • product is correctly packed and labelled where necessary with no damage occurring to product due to packing • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • resources and product to pack.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Product types</i> may include:	<ul style="list-style-type: none"> range of products within the major categories of mail, security mail, paper, pressure sensitive material, board, corrugated board, plastics and related films.
<i>Packaging techniques</i> may include:	<ul style="list-style-type: none"> various methods and equipment used in wrapping and packing of printed and printing related products.
<i>Chemical type</i> may include:	<ul style="list-style-type: none"> chemicals and solvents commonly used for the reclamation of screens.
<i>Type of inspection</i> may include:	<ul style="list-style-type: none"> various types of inspection techniques (i.e. 100%, random, periodic or continuous in-line inspection).
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU201C Prepare, load and unload reels and cores on and off machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to load and unload reels and cores on and off machines. It should be assessed separately only when this is a substantial part of the worker's job. Otherwise it is integrated into most printing and converting, binding and finishing set up units.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly load and unload reels and cores on and off machines whilst maintaining OHS standards.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare reels and cores	<p>1.1. Faulty material is visually identified and removed according to enterprise procedures</p> <p>1.2. <i>Substrate</i> is positioned in correct unwind direction</p> <p>1.3. Substrate is spliced/joined according to job requirements</p> <p>1.4. Reel cores are selected or prepared to meet OHS requirements and job specifications</p>
2. Load reels and cores onto machine	<p>2.1. Reels are loaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</p> <p>2.2. Reel cores are loaded to meet job specifications</p> <p>2.3. Area around machine is cleaned during and on completion of loading</p>
3. Unload reels off machine	<p>3.1. Reels are unloaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</p> <p>3.2. Reels are prepared (stripped, stacked, wrapped, labelled) for next process according to manufacturer's and enterprise procedures and specifications</p> <p>3.3. Reels are stored according to manufacturer's and enterprise procedures and specifications</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by working with the printer to ensure that reels are suitably prepared and brought to the production process
- collecting, analysing and organising information by identifying faulty material
- planning and organising activities by preparing and loading reels
- teamwork when working with printer to ensure that correct reels are loaded when needed to ensure efficient production
- mathematical ideas and techniques by calculating weights of reels to ensure correct and safe handling; and calculating paper use to ensure timely delivery and loading of new reels
- problem-solving skills by preparing reels for the next process
- use of technology by loading and unloading reels and cores on and off the machine according to manufacturer's specifications

Required knowledge

- all nip points, guards and safety devices on the machine
- potential dangers at these points
- characteristics of reels
- information that can be obtained from the reel label
- methods that could be used to identify reel grain direction
- faulty reels and cores
- features that would indicate that a reel is faulty
- techniques that could be used to combat distorted reels
- techniques that could be used to combat distorted cores
- manual handling of reels
- OHS concerns related to the manual handling of reels
- preparing and loading selected reels
- position of the reels on the unwind unit
- techniques that could be used to join reels to the web
- unloading reels off the machine for further processing
- OHS concerns related to the unloading of reels off the machine
- faults that could be created by reels being unloaded incorrectly
- preparations that need to be considered for the next operation
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • identify all stop and safety controls on the machine • the individual will correctly load and unload reels and cores on and off machines whilst maintaining OHS standards • prepare, load and unload at least TWO wide OR narrow reels and cores demonstrating BOTH manual and EITHER semi-automatic OR automatic splicing, according to job specifications and listed performance criteria. BOTH tapes AND adhesive splicing mechanisms must be demonstrated • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • printing or converting machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • this unit may be assessed at the same time as virtually any printing or converting, binding and finishing or corrugating set up unit.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Range of machines</i> may include:	<ul style="list-style-type: none"> range of printing, converting, binding and finishing, corrugating and laminating machines.
<i>Substrate delivery</i> may include:	<ul style="list-style-type: none"> wide and narrow reel delivery systems.
<i>Splicing medium</i> may include:	<ul style="list-style-type: none"> splicing tapes and adhesives.
<i>Substrate preparation</i> may include:	<ul style="list-style-type: none"> manual, semi-automatic and automatic zero speed or flying splicing mechanisms and a range of splicing patterns.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU202C Prepare, load and unload product on and off machine

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to load and unload product on and off machines. It should be assessed separately only when this is a substantial part of the worker's job. Otherwise it is integrated into most printing and converting, binding and finishing set up units.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly prepare, load and unload product on and off machines according to OHS requirements and manufacturer/supplier's specifications with minimum downtime.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare product	1.1. Job sheets or equivalent are interpreted correctly 1.2. Product is located and prepared to meet job specifications 1.3. Product is positioned correctly to the machine to meet job specifications 1.4. Faulty product is visually identified and removed according to OHS requirements and enterprise procedures
2. Load product onto machine	2.1. Product is loaded according to OHS requirements and manufacturer's and enterprise procedures and specifications 2.2. Area around machine is cleaned during and on completion of loading
3. Unload product off machine	3.1. Product is unloaded according to OHS requirements and manufacturer's and enterprise procedures and specifications 3.2. Product is prepared (hand-stripped, stacked, wrapped, labelled) for next process according to manufacturer's and enterprise procedures and specifications 3.3. Product is stored according to manufacturer's and enterprise procedures and specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by working with the printer to ensure that reels are suitably prepared and brought to the production process
- collecting, analysing and organising information by preparing product
- planning and organising activities by loading product onto machines
- teamwork when working with printer to ensure that correct substrates are loaded when needed to ensure efficient production
- mathematical ideas and techniques by calculating weights of substrates to ensure correct and safe handling; and calculating substrate use to ensure timely delivery and loading
- problem-solving skills by preparing product for the next stage in the process
- use of technology by using manual and automatic stackers

Required knowledge

- information that can be obtained from the package label
- substrate grain direction
- watermarks identified in substrates
- characteristics of coated and uncoated stocks
- manual handling of the substrate
- OHS concerns related to the manual handling of substrates
- elements of a correctly knocked up stack
- benefits of fanning sheets prior to stacking or loading
- procedures in turning substrates
- preparing and loading selected substrate
- techniques used to ensure that the stack is knocked up correctly
- methods used to ensure correct positioning of watermarked substrates
- unloading sheets off the machine
- OHS concerns related to the unloading of sheets off the machine
- faults created by substrate being unloaded incorrectly
- faulty substrates
- conditions that cause a stack to become uneven
- techniques that can be employed to combat distorted stacks
- machine manuals, safety and other documentation are relevant to this task and where are they kept and what information is included in these documents?

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the individual will correctly prepare, load and unload product on and off machines according to OHS requirements, manufacturer's/supplier's specifications with minimum downtime prepare, load and unload product on and off any ONE appropriate machine incorporating specific enterprise requirements; manual techniques; fanning, turning, jogging (where appropriate) and stacking; to job and workplace specifications according to the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment printing or converting machine.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> this unit may be assessed at the same time as many printing or converting, binding and finishing set up units or screen printing produce print units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Range of equipment</i> may include:	<ul style="list-style-type: none"> range of printing, converting, binding and finishing, corrugating and laminating machines.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, metal, fabrics or textiles.
<i>Substrate delivery</i> may include:	<ul style="list-style-type: none"> large and small sheet/section delivery systems.
<i>Substrate preparation</i> may include:	<ul style="list-style-type: none"> manual and machine-based fanning, turning and jogging.
<i>Feeding units</i> may include:	<ul style="list-style-type: none"> manual and automatic single sheet and stream-fed pre-feeders and feeders.
<i>Stacking units</i> may include:	<ul style="list-style-type: none"> manual and automatic stackers.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU203C Prepare and maintain the work area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake basic housekeeping functions and retrieve and deliver materials including chemicals and liquid waste within the workplace.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare and maintain the work area according to OHS and enterprise procedures.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Perform general cleaning duties	1.1. Requirements for cleaning duties are identified 1.2. Personal safety equipment, where needed, is selected and used according to OHS and <i>enterprise procedures</i> 1.3. Appropriate cleaning equipment and <i>chemicals</i> /detergents for specific tasks are determined, prepared and mixed to manufacturer's specifications and OHS procedures 1.4. Procedures for handling, storage and correct disposal of cleaning liquids are carried out according to enterprise, OHS and EPA specifications 1.5. Cleaning is carried out to OHS and enterprise requirements
2. Maintain supplies of materials	2.1. Requests are received, where relevant, and tasks are confirmed and organised according to specific procedures 2.2. <i>Tools and equipment</i> are identified, stored and maintained according to manufacturer's recommendations to ensure ease of access and operator safety 2.3. Appropriate equipment for transferring material or equipment is identified and organised, where relevant 2.4. Material or equipment is loaded and unloaded using suitable equipment (other than forklift) according to materials handling requirements, safe work practices and correct manual handling techniques 2.5. Material is transferred to correct destination in a safe manner
3. Store and retrieve artwork, information, used plates and film	3.1. Inventory control procedures are followed to ensure correct filing and retrieval of artwork, information, used plates and film 3.2. Artwork and other materials are stored and retrieved according to enterprise procedures to ensure preservation
4. Handle chemicals and liquid waste	4.1. Material safety data sheets are used to identify safe chemical handling procedures 4.2. Chemicals and liquid waste are handled according to manufacturer's specifications and enterprise OHS requirements 4.3. The correct procedure for dealing with spilt chemicals is demonstrated according to OHS

ELEMENT	PERFORMANCE CRITERIA
	requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by supplying materials when needed and conveying information between production workers and stores people
- collecting, analysing and organising information by accessing and using MSDSs; using basic inventory procedures
- planning and organising activities by confirming and organising tasks
- teamwork when working with others to ensure that correct consumables and materials are available when needed
- mathematical ideas and techniques by calculating dilution factors for cleaning materials/chemicals to ensure correct and safe handling; calculating weights of materials to ensure safe handling
- problem-solving skills by applying the correct procedure for dealing with spilt chemicals
- use of technology by using manual handling equipment to move supplies

Required knowledge

- personal safety equipment that may be required to perform cleaning duties
- OHS concerns related to the use of cleaning chemicals
- handling of supplies, parts and finished product
- potential dangers when handling supplies or parts
- safety requirements for transporting finished products
- recording details necessary in the transfer of the finished product
- safety requirements and procedures necessary for the disposal of liquid waste
- operating inventory control systems
- key information that is required for accurate storage and for ensuring retrieval
- filing inventory procedures to be utilised in the work environment
- the nature of various materials and substrates
- OHS considerations are associated with materials and substrates used in the workplace
- main environmental considerations associated with storage of artwork, photographic materials and plates
- safety requirements for the storage and disposal of chemicals
- potential accidents when cleaning or handling supplies
- weight limitations
- correct lifting techniques
- placing loads so as to avoid back injury

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> demonstrate cleaning, delivery of materials, equipment, artwork, information, used plates and film and chemical and liquid waste handling (if relevant to the workplace) according to the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a production environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Chemicals</i> may include:	<ul style="list-style-type: none"> wet and dry chemicals.
<i>Tools and equipment</i> may include:	<ul style="list-style-type: none"> manual, mechanical and electronic equipment used in the production process.
<i>Sector</i> may include:	<ul style="list-style-type: none"> all sectors of pre-press, printing, screen printing, corrugating, converting and finishing.

Unit Sector(s)

Not applicable.

Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU207C Prepare machine for operation (basic)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare machines and assist with their operation according to enterprise procedures. It is an integral part of most printing and finishing machine set ups but need not be assessed separately unless it represents the main job of the worker. It can also be used to assess processes on dedicated machines.
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Application of the Unit

Application of the unit	This unit is intended to be used by machine minders and offsidiers assisting in the operation of a machine.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare or set up substrates (or loads)	1.1. Job sheets or equivalent instructions are interpreted correctly 1.2. Product is located, checked and prepared to meet job specifications according to established enterprise procedures and OHS procedures 1.3. Faulty material is visually identified and removed according to established enterprise procedures and OHS procedures
2. Set up reel systems (OR Element 3)	2.1. Unwind reel is set up and adjusted to suit job requirements 2.2. Webbing procedures are carried out according to enterprise procedures 2.3. Web-control system is set up and adjusted to suit job requirements 2.4. Reels are spliced/joined to suit job requirements 2.5. Rewind reel is set up and adjusted to suit job requirements 2.6. Folder is set up and adjusted to suit job requirements 2.7. Sheeter is set up and adjusted to suit job requirements 2.8. Readiness of transport and delivery systems is reported according to enterprise procedures for final adjustments by designated person
3. Set up sheet or product systems (OR Element 2)	3.1. Feeder is set up and adjusted to suit job requirements 3.2. Sheet/product pick-up and transportation system is set up and adjusted to suit job requirements 3.3. Transfer systems are set up and adjusted to suit job requirements 3.4. Delivery is set up and adjusted to suit job requirements 3.5. Product is removed from process according to job instructions 3.6. Sheet/product transfer and control system is set up and adjusted to suit job requirements 3.7. Readiness of transport and delivery systems is reported according to enterprise procedures for final adjustments by designated person, if required
4. Prepare machine	4.1. Machine is set up according to job instructions 4.2. Inks, glues, liquid and or other materials are loaded as required according to manufacturer's instructions and enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Plates, cutting or other devices are installed as required according to manufacturer's instructions and enterprise procedures</p> <p>4.4. Registration, alignment or centring is confirmed according to machine manufacturer's/supplier's instructions and enterprise procedures</p> <p>4.5. Machine is run through cycle at the same time ensuring that the substrate/product is positioned properly and that the process is being performed according to established workplace and OHS procedures</p> <p>4.6. Readiness of machine is reported according to enterprise procedures for final adjustments and proofing by designated person, if required</p>
<p>5. Conduct shutdown of production process</p>	<p>5.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.2. Shutdown is conducted in association with fellow workers, if required, and in compliance with OHS requirements</p> <p>5.3. Unused materials are stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.4. Used plates, cutting and other devices are removed and stored according to manufacturer's/supplier's specifications and enterprise procedures</p> <p>5.5. All product is removed from operating area according to enterprise procedures and OHS standards</p> <p>5.6. Machine faults requiring repair are identified and reported to designated person according to enterprise procedures</p> <p>5.7. Repair/adjustment is verified prior to resumption of operations</p>
<p>6. Clean and wash up machine at end of run</p>	<p>6.1. Machine sections, as relevant to process, are cleaned ready for next run</p> <p>6.2. Inking/gluing/coating system, if used in process, is washed up ready for next run, and waste is disposed of according to enterprise and regulatory requirements</p> <p>6.3. In-line printing/converting/binding/finishing/coating units are cleaned ready for next run</p> <p>6.4. Feed, transportation and delivery systems are disengaged and cleaned ready for next run</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by interpreting job tickets
- collecting, analysing and organising information by reading data on substrates, inks and glues to ensure correct usage and handling
- planning and organising activities by deciding on a sequence of set ups and wash-ups to ensure efficient operation
- teamwork when working with others to ensure efficient set up and wash-up
- mathematical ideas and techniques by calculating substrate and other consumable requirements for job
- problem-solving skills by recognising and reporting problems in set up (or wash-up)
- use of technology by using monitoring systems

Required knowledge

- handling of supplies, parts and finished product
- avoiding back strain when lifting heavy objects
- avoiding damaging finished product
- supplies that require special handling
- substrate preparation and machine set up procedures
- OHS considerations when preparing substrates and setting up a machine
- procedures for the disposal of faulty materials
- possible danger areas of the machine
- registration section of the machine
- function of the registration section of the machine
- problems that could interrupt the running cycle of the machine
- shutdown procedures
- areas of the Machine that are modified during shutdown
- areas of the machine that should be checked for possible repair
- details that should be included when labelling unused ink
- cleaning and washing machine
- OHS considerations when washing up a machine
- ineffective wash-up affecting the following production run

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • demonstrate all safety devices on the machine • prepare machines and assist with their operation according to enterprise procedures • prepare and set up to the stage of final adjustment of any ONE machine according to manufacturer's specifications and the listed Performance Criteria OR set up a minor process on a dedicated machine • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a printing or converting machine in a production environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Product may include:	<ul style="list-style-type: none"> all substrates and paper or plastic converting products.
Enterprise procedures may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
Machines may include:	<ul style="list-style-type: none"> range of printing, converting, binding, corrugating, laminating, coating processes. Also minor processes including in-line auto packers, down stackers, or stackers, pile turners and wrappers on dedicated machines.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU208C Operate and monitor machines (basic)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to operate and monitor machines under supervision according to enterprise requirements.</p> <p>This unit is an integral part of most printing and converting, binding and finishing produce units. It should only be assessed separately when it constitutes the worker's main job.</p>
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Application of the Unit

Application of the unit	<p>This unit is intended to be used by machine minders and offsidiers assisting in the operation of a machine. It is an integral part of most printing and finishing machine produce units but need not be assessed separately unless it represents the main job of the worker. It can also be used to assess minor processes on dedicated machines.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Operate and monitor reel systems (OR Element 2)</p>	<p>1.1. Job sheets or equivalent instructions are interpreted correctly</p> <p>1.2. Reel stand is monitored and adjusted to ensure efficient continuous operation according to job instructions</p> <p>1.3. Web control system is monitored and minor adjustments made to ensure correct tension and accurate continuous positioning of the web for efficient</p> <p>1.4. Substrate is added to process according to job instructions</p> <p>1.5. Reel rewind section is monitored and minor adjustments made to maintain correct tension and to ensure no marks, blemishes or damage to finished product</p> <p>1.6. Substrate is removed from process according to job instructions</p> <p>1.7. Sheeting section is monitored and minor adjustments made to ensure quality and efficient product delivery</p> <p>1.8. Need for major adjustments to process are identified and reported according to company operating procedure to designated person</p>
<p>2. Operate and monitor sheet or product systems (OR Element 1)</p>	<p>2.1. Job sheets or equivalent instructions are interpreted correctly</p> <p>2.2. Feeder is monitored and minor adjustments made to ensure continuous and efficient feeding to <i>machine</i></p> <p>2.3. Sheet or <i>product</i> pick-up and transport system is monitored and minor adjustments made to ensure accurate and continuous sheet or product handling and efficient operation</p> <p>2.4. Transfer systems are monitored and minor adjustments made to ensure correct and continuous sheet or product handling and efficient operation</p> <p>2.5. Product is added to process according to job instructions</p> <p>2.6. Delivery is monitored and minor adjustments made to ensure quality and efficient product delivery</p> <p>2.7. Need for major adjustments to process are identified and reported according to company operating procedures to designated person</p>
<p>3. Maintain and</p>	<p>3.1. Production process is operated and monitored in</p>

ELEMENT	PERFORMANCE CRITERIA
monitor production process	<p>association with fellow workers and according to company specifications and planned daily schedule</p> <p>3.2. Sheet/product pick-up and transportation system is set up and adjusted to suit job requirements</p> <p>3.3. Product is monitored and minor adjustments are made to ensure quality of output is maintained</p> <p>3.4. Need for major adjustments to process are identified and reported according to operating procedure to other appropriate worker</p> <p>3.5. Faulty performance of equipment is identified and reported according to <i>enterprise procedures</i></p> <p>3.6. Waste is sorted according to enterprise procedures</p>
4. Conduct shutdown of production process	<p>4.1. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>4.2. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>4.3. Unused materials are stored according to manufacturer/supplier specifications and company operating procedures</p> <p>4.4. Used plates, cutting and other devices are removed and stored according to manufacturer/supplier specifications and company operating procedures</p> <p>4.5. All product is removed from operating area according to enterprise procedures and OHS standards</p> <p>4.6. Machine faults requiring repair are identified and reported, according to enterprise procedures to designated person</p> <p>4.7. Repair/adjustment is verified prior to resumption of operations</p>
5. Clean and wash up machine at end of run	<p>5.1. Machine units, as relevant to process, are cleaned ready for next run</p> <p>5.2. Inking/gluing/coating system, if used in process, is washed up ready for next run, and waste is disposed of according to company and regulatory requirements</p> <p>5.3. In-line printing/converting/binding/finishing/coating units are cleaned ready for next run</p> <p>5.4. Feed, transportation and delivery systems are disengaged and cleaned ready for next run</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing useful feedback to supervisors on course of job
- collecting, analysing and organising information by accessing data on substrates and inks and glues to ensure efficient production
- planning and organising activities by identifying sequences for monitoring to ensure efficient production
- teamwork when working with supervisors to ensure efficient production
- mathematical ideas and techniques by calculating the use of consumables and estimated completion times for jobs
- problem-solving skills by recognising and correctly reporting production problems
- use of technology by monitoring systems

Required knowledge

- handling of supplies, parts and finished product
- avoiding back strain when lifting heavy objects
- avoiding damaging finished product
- supplies that require special handling
- reel or sheet transportation and delivery systems
- OHS factors that must be considered when setting and/or operating machine transport and delivery systems
- areas of the transport and delivery systems that should be monitored to ensure trouble-free operation
- area of the web control system that should be adjusted to maintain correct web tension
- check needed when substrate is removed from the machine
- maintaining production processes
- OHS factors that must be considered when operating and monitoring the production process
- basic criteria for assessing finished product
- adjustments that can be made to the machine to correct TWO different production or quality problems
- shutdown procedures
- areas of the machine that are modified during shutdown
- areas of the machine that should be checked for possible repair
- details that should be included when labelling unused ink

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• cleaning and washing machine• OHS considerations when washing up a machine• ineffective wash-up affect on the following production run |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operating and monitoring machines according to job and enterprise requirements demonstrate all safety devices on the machine under the supervision of, or in conjunction with a worker with the appropriate skills, operate, monitor and shut down and clean any ONE machine according to manufacturer's specifications and the listed Performance Criteria evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment a printing or converting machine in a production environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machines</i> may include:	<ul style="list-style-type: none"> range of printing, converting, binding, corrugating, laminating, coating processes. Also minor processes including in-line auto packers, down stackers, or stackers, pile turners and wrappers on dedicated machines.
<i>Product</i> may include:	<ul style="list-style-type: none"> all substrates and paper or plastic converting products.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU211C Prepare ink and additives

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare inks and additives in a range of printing processes.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare ink and additives as required by the job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select ink	<p>1.1. Inks, dyes and additives are selected according to job specifications</p> <p>1.2. Quality and suitability of inks, dyes or additives are checked and appropriate action is taken</p> <p>1.3. Inks and dyes are selected according to suitability of substrate, adhesion, physical and chemical resistance, and light fastness, drying method and print process</p>
2. Prepare ink	<p>2.1. Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>2.2. Correct colour and weight/volume of ink are mixed and prepared to match the requirements of the job specifications and the printing press to be used</p> <p>2.3. Formulation of the ink and the approved colour is appropriately recorded</p>
3. Store and handle ink	<p>3.1. Inks, dyes and additives are appropriately stored, handled and labelled according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly labelling inks and additives
- collecting, analysing and organising information by accessing and using MSDSs and data on ink/additive formulation to ensure efficient production
- planning and organising activities by selecting appropriate inks and additives prior to preparation
- teamwork when maintaining the production process in association with other staff
- mathematical ideas and techniques by calculating weights and volumes and dilution factors
- problem-solving skills by identifying problems in formulation and making appropriate adjustments
- use of technology by using manual and electronic measuring equipment

Required knowledge

- selecting inks and additives to match process and job requirements
- suitability of the ink determined for the particular process
- characteristics of the chosen ink matched to the substrate
- ink adhering to the substrate
- physical, chemical and light or colour fastness of the ink
- preparing inks and additives
- OHS concerns related to the preparation of inks and additives
- correct handling procedures
- correct weight/volume required
- methods that are available to check and adjust ink colour and consistency
- quality of the ink or additive is up to the standard required
- matching colour
- OHS concerns related to the matching of inks and additives
- effect that lighting conditions have on colour matching
- compatibility of being mixed
- correct colour for inks
- storage, handling and labelling of inks and additives
- MSDSs for this ink system that is at hand
- environmental conditions that are relevant to the storage of inks and additives
- conventions that should be adhered to when labelling mixed inks
- method of disposal of inks, solvent and solvent rags

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• information sources• manuals, safety and other documentation that are relevant to this task and where are they kept• information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly preparing ink and additives as required by job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare at least TWO lots of inks or additives to match a colour sample and specific end-use requirements according to workplace specifications and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • inks and additives.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Type of ink, substrate</i> may include:	<ul style="list-style-type: none"> range of inks and substrates commonly used in the printing industry.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> commonly used matching procedures.
<i>Type of equipment</i> may include:	<ul style="list-style-type: none"> range of manual and electronic measuring equipment.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU212C Prepare coatings and adhesives

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare coatings and adhesives.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare coatings and adhesives to match the job specifications.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select coatings, adhesives and additives	<p>1.1. <i>Coatings</i>, adhesives and additives are selected according to job specifications</p> <p>1.2. <i>Quality</i> and suitability of coatings, adhesives and additives are checked and appropriate action is taken</p> <p>1.3. Coatings, adhesives and additives are selected according to suitability of <i>substrate</i>, physical and chemical properties and performance</p>
2. Prepare coatings, adhesives and additives	<p>2.1. Coatings, adhesives and additives are prepared according to OHS requirements and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>2.2. Correct weight/volume of coatings, adhesives and additives are mixed and prepared to match the job specification and the process to be used</p> <p>2.3. Formulation of the coatings, adhesives and additives is appropriately recorded</p>
3. Store and handle coatings, adhesives and additives	<p>3.1. Coatings, adhesives and additives are appropriately stored, handled and labelled according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel</p> <p>3.2. Coatings, adhesives and additives are stored and used in a manner that ensures use before use-by dates</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling coatings, adhesives and additives
- collecting, analysing and organising information by accessing and using MSDSs and other data sources on coatings and adhesives to ensure safe and efficient production
- planning and organising activities by selecting coatings and adhesives required prior to preparation
- teamwork when maintaining the production process in association with other staff
- mathematical ideas and techniques by calculating weights, volumes and formulations
- problem-solving skills by checking quality and suitability of coatings and taking appropriate action if problems arise
- use of technology by using manual and electronic measuring equipment

Required knowledge

- selecting coatings/adhesives to match process and job requirements
- suitability of the coatings/adhesives determined for the particular process
- characteristics of the coatings/adhesives matched to the job/substrate
- adhering coatings/adhesives to the substrate
- preparing coatings/adhesives
- OHS concerns related to the preparation of coatings/adhesives
- correct handling procedures
- details that are required in order to calculate quantities of coatings/adhesives
- details that are required to record the formulation of coatings/adhesives
- storage, handling and labelling of coatings/adhesives
- OHS concerns related to the storage and handling of coatings/adhesives
- environmental conditions that are relevant to the storage of coatings/adhesives
- conventions that should be adhered to when labelling coatings/adhesives
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare coatings and adhesives according to job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare TWO different coatings or adhesives for specific end-use requirements to meet job and workplace specifications and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • coatings, adhesives and substrates.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording in the Performance Criteria is detailed below..	
<i>Coatings</i> may include:	<ul style="list-style-type: none"> range of coatings including wax, varnish, carbon coating, carbonless slurry; pre-mixed starch adhesives, cold and hot melt glue; and appropriate additives used in the printing industry.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> commonly used matching procedures.
<i>Type of equipment</i> may include:	<ul style="list-style-type: none"> range of manual measuring equipment.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU216C Inspect quality against required standards

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to inspect the quality of work against job specifications.
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Application of the Unit

Application of the unit	This unit is a minimum quality standard required for anyone to operate successfully in the workplace.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Carry out inspection of quality during job	1.1. Job is collected/received and inspected against job specifications according to enterprise standards and procedures 1.2. Quality specifications and tolerances are understood 1.3. Variation to standards is monitored and corrective action taken to rectify the problem according to enterprise procedures 1.4. Inspection and testing procedures are applied at regular intervals to determine conformity with specifications and to minimise waste 1.5. Unsatisfactory work is identified according to predetermined standards and enterprise procedures
2. Complete documentation	2.1. Documentation is accurately completed to meet required enterprise procedures 2.2. Problems and suggestions for improvement are documented and passed on to appropriate personnel

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to supervisors on quality problems and issues
- collecting, analysing and organising information by accessing information on quality requirements eg tolerances and applying these in the workplace to ensure a quality product
- planning and organising activities by checking quality requirements before commencing the job
- teamwork when participating in quality reporting procedures at all levels
- mathematical ideas and techniques by applying inspection and testing procedures as relevant
- problem-solving skills applied by identifying quality problems and resolving or reporting them
- use of technology by using relevant inspection and testing procedures

Required knowledge

- checking quality requirements before job commencement
- quality standards that have been set by the customer
- enterprise procedures to achieve quality
- necessary quality areas that should be inspected
- quality inspection procedures
- timing of quality inspections be carried out
- results that unnecessary inspection have on production output
- control instruments that are used in quality inspection
- faults identified response
- responsibility for the quality of the product
- documentation procedures
- specifications that are recorded on the job sheet
- necessary information that needs to be documented
- recipient of this information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly inspect the quality of work against job specifications • demonstrate an ability to find and use information relevant to the task from a variety of information sources • evidence should include a record of at least one month during which no reasonable complaints or reports of faulty goods or documentation are received from customers (internal or external) relating to work handled by the candidate • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Type of inspections</i> may include:	<ul style="list-style-type: none"> various types of inspection and testing techniques (ie 100%, random, periodic or continuous in-line inspection).
<i>Sector</i> may include:	<ul style="list-style-type: none"> all sectors of pre-press, printing, screen printing, multimedia, converting, binding and finishing, mail house and ink manufacture.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU221C Pack and dispatch product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to pack and dispatch basic printed products.
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Application of the Unit

Application of the unit	This unit requires the individual to pack and dispatch printed products according to enterprise procedures.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess final product	<p>1.1. Finished job is collected/received and checked against job specifications according to <i>enterprise procedures</i></p> <p>1.2. Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures</p>
2. Prepare stock for dispatch	<p>2.1. Suitable area for wrapping/<i>packaging</i> is selected and prepared</p> <p>2.2. Wrapping and packaging materials are prepared according to enterprise procedures</p> <p>2.3. <i>Product</i> is wrapped and packaged in pre-determined parcel sizes according to enterprise procedures, job specifications, storage and delivery specifications</p> <p>2.4. Product is packaged in predetermined form as appropriate to product size, type, destination, delivery route and method of transportation; and according to workplace instructions, transportation/shipping regulations and OHS requirements</p> <p>2.5. Packaged goods are checked, weighed and labelled according to delivery instructions, transportation/shipping regulations and enterprise procedures</p>
3. Dispatch product	<p>3.1. Packaged product is stacked on/in appropriate storage/shipping containers prior to <i>dispatch</i></p> <p>3.2. Product is dispatched via appropriate delivery mode according to enterprise procedures, job specifications and OHS requirements</p> <p>3.3. Product shipping/dispatch details are recorded according to enterprise procedures</p> <p>3.4. Documentation associated with tasks, where relevant, is accurately completed according to enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling packaged goods according to delivery instructions
- collecting, analysing and organising information by accessing information about packing requirements for various products with regard to protecting product and meeting transport needs and fulfilling these requirements
- planning and organising activities by preparing stock prior to dispatch
- teamwork when liaising with printers, transport suppliers and customers to ensure product arrives undamaged and on time
- mathematical ideas and techniques by calculating weights and dividing jobs into separate packages to meet transport needs
- problem-solving skills by checking finished job and taking remedial action
- use of technology by weighing stock and packaging

Required knowledge

- preparing stock for dispatch
- items that will be required in the process of dispatching
- checks that are performed prior to packaging the product
- identifying a defective print or item
- defect rectification
- wrapping and packing materials and methods
- OHS regulations on packaged goods
- type of packaging to be used
- transport or destination's bearing on the wrapping and packing method
- number of units to be wrapped in each parcel
- details that need to be recorded on dispatching labels and why
- dispatching product
- shipping details to be obtained
- weight limitations that are there on dispatched products
- priorities that are used for dispatching the product
- appropriate delivery mode
- completing documentation of dispatched product

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly packing and dispatching printed products and accurately completing documentation • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare, pack and dispatch TWO lots of printed or printing related product following correct procedures, job and workplace specifications and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • resources and product to pack and dispatch.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Packaging techniques</i> may include:	<ul style="list-style-type: none"> various methods and equipment used in wrapping and packing of printed and printing related products.
<i>Product types</i> may include:	<ul style="list-style-type: none"> range of products within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal; printing plates, cylinders, disks.
<i>Dispatch methods</i> may include:	<ul style="list-style-type: none"> packaging requirements for the various methods of transportation of products.
<i>Type of inspections</i> may include:	<ul style="list-style-type: none"> various types of inspection and testing techniques (ie 100%, random, periodic or continuous in-line inspection).
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel and large and small sheet dispatch configurations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU222C Pack and dispatch solid waste

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to packing and dispatch solid waste.
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Application of the Unit

Application of the unit	This unit requires the individual to pack and dispatch solid waste according to enterprise procedures.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess solid waste	1.1. Reusable waste is sorted from recyclable waste according to <i>enterprise procedures</i> 1.2. Waste is weighed and weight and source of waste recorded
2. Prepare solid waste for removal from site	2.1. Waste is shredded according to enterprise procedures, storage and delivery specifications 2.2. Waste is baled as appropriate for waste destination, delivery method and method of transportation and according to enterprise procedures
3. Dispatch solid waste	3.1. Waste is stacked/ <i>packed</i> on/in appropriate storage/shipping containers prior to <i>dispatch</i> 3.2. Waste is dispatched via appropriate delivery mode according to enterprise procedures and job specification 3.3. Waste is dispatched at pre-determined rate to prevent accumulation of waste around machines 3.4. Documentation associated with tasks is accurately completed according to enterprise procedures
4. Carry out minor routine maintenance and cleaning of waste packaging machines	4.1. Shredder is cleaned, checked and lubricated according to manufacturer's specifications and enterprise standard operating procedures 4.2. Baler is cleaned, checked and lubricated according to manufacturer's specifications and enterprise standard operating procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by completing workplace documentation on the dispatch of solid waste
- collecting, analysing and organising information by recording the source and weight of waste
- planning and organising activities by sequencing waste collection and packaging to ensure efficiency and minimum disruption of production
- teamwork when removing waste from around machines to ensure flow of work
- mathematical ideas and techniques by completing documentation of the packing and dispatch of solid waste
- problem-solving skills by choosing from various options for waste disposal
- use of technology by using and cleaning the bales to package waste

Required knowledge

- sorting solid waste
- difference between reusable and recyclable waste
- example of each of the above
- methods of reusable waste to be stored and used
- weight limitations of each batch of solid waste
- processing solid waste
- OHS regulations on operating the shredding machine
- capabilities of the shredding machine
- appropriate baling method
- dispatch and documentation
- appropriate method for storage of solid waste prior to dispatching
- problems caused by the accumulation of waste around machines
- details that are recorded when dispatching solid waste
- obtaining details for dispatching
- maintaining waste packaging machines
- OHS concerns related to cleaning and maintaining shredding machines
- OHS concerns related to cleaning and maintaining baling machines
- frequency that machines should be cleaned and lubricated
- information sources
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correct packing and dispatching solid waste • assess, prepare and dispatch TWO lots of solid waste and maintain and clean waste packaging machines according to job and workplace specifications and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • solid waste and disposal equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Packaging techniques</i> may include:	<ul style="list-style-type: none"> various methods and equipment used in packing of solid waste.
<i>Dispatch methods</i> may include:	<ul style="list-style-type: none"> packaging requirements for the various methods of transportation of products.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

Co-requisite units		

ICPSU224C Perform basic machine maintenance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake basic routine maintenance of printing and converting equipment.
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Application of the Unit

Application of the unit	This unit requires the individual to perform basic maintenance of printing and converting equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Carry out minor routine maintenance and programmed cleaning of reel handling system</p>	<p>1.1. Unwind unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>1.2. Web control devices are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>1.3. Rewind unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>1.4. Folding unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>1.5. Sheeting unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>1.6. Basic <i>maintenance</i> is carried out according to OHS requirements</p>
<p>2. Carry out minor routine maintenance and programmed cleaning of sheet or object handling systems</p>	<p>2.1. Feeder is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.2. Lays and transfer gripper system are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.3. Delivery is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.4. Basic maintenance is carried out according to OHS requirements</p>
<p>3. Carry out minor routine maintenance and programmed cleaning of printing units</p>	<p>3.1. Cylinder/screen/plate and roller surfaces, safety devices, gears and bearings are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>3.2. <i>Ink</i> distribution system components are checked, lubricated, maintained and replaced according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>3.3. Various print control devices are checked, lubricated and maintained according to manufacturer's</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>recommendations and enterprise standard operating procedures</p> <p>3.4. Basic maintenance is carried out according to OHS requirements</p>
<p>4. Carry out minor routine maintenance and programmed cleaning of cutting units</p>	<p>4.1. Cutting devices and knives are checked, lubricated, maintained and replaced according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>4.2. Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>4.3. Basic maintenance is carried out according to OHS requirements</p>
<p>5. Carry out minor routine maintenance and programmed cleaning of folding/collating units</p>	<p>5.1. Folding/collating system components are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>5.2. Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>5.3. Basic maintenance is carried out according to OHS requirements</p>
<p>6. Carry out minor routine maintenance and programmed cleaning of fastening units</p>	<p>6.1. Adhesive and mechanical fastening components are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>6.2. Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>6.3. Basic maintenance is carried out according to OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by advising other staff of any problems found on the machines
- collecting, analysing and organising information by accessing machine manuals to determine maintenance and cleaning needs
- planning and organising activities by working to predetermined work schedules
- teamwork when working with the production manager to ensure maintenance and cleaning is done effectively with minimum disruption of production
- mathematical ideas and techniques by checking more complex machines with electronic, hydraulic or pneumatic technology
- problem-solving skills by recognising when maintenance and cleaning are required and responding appropriately (either carrying out maintenance or reporting it to responsible person)
- use of technology by performing routine maintenance on machines

Required knowledge

- reel handling system
- OHS requirements when maintaining and cleaning the reel handling system
- common causes of failure or breakdown
- precautions that must be observed when working with compressed air
- damage caused to electronic sensors during cleaning
- checks that were performed on this area of the machine
- particular chemical used for cleaning purposes
- sheet or object handling systems
- OHS requirements when maintaining and cleaning the sheet or object handling system
- common causes of failure or breakdown
- problems with inefficient cleaning
- parts of this area of the machine that require cleaning
- effect of excessive lubricant in this area of the machine
- need for regular maintenance of this area of the machine.
- printing units
- OHS requirements when maintaining and cleaning the printing units
- common causes of failure or breakdown
- problem that arises due to continual inefficient wash-up of roller surfaces
- necessity to clean the bearers on all cylinders in the printing unit

REQUIRED SKILLS AND KNOWLEDGE

- problems that could result from cylinder bodies not being cleaned correctly
- safety devices that were checked in the printing unit
- action if a safety device is found to be inoperative
- checks that must be carried out when replacing rollers in the inking system
- ancillary units
- OHS requirements when maintaining and cleaning ancillary units
- common causes of failure or breakdown
- checks that were performed on ancillary units
- precautions that should be observed when cleaning ancillary units
- cutting units
- OHS requirements when maintaining and cleaning the cutting units
- common causes of failure or breakdown
- checks that are carried out on cutting devices and knives
- storing of cutting knives after being replaced
- problems that would arise if the machine bed was not maintained
- problems that would arise if blades or knives were not maintained
- folding/collating units
- OHS requirements when maintaining and cleaning the folding/ collating units
- common causes of failure or breakdown
- components that were checked with this equipment
- problems with inefficient cleaning of the folding/collating unit
- parts of this machine that require cleaning
- type of lubricant used on this equipment and why
- fastening units
- OHS requirements when maintaining and cleaning the fastening units
- common causes of failure or breakdown
- chemicals that were used when cleaning this equipment
- disposal of used chemicals
- frequency this equipment should be cleaned
- problems that could be caused by inefficient cleaning
- parts of the equipment that should be cleaned
- the result of excessive lubricant in this part of the machine
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly performing basic machine maintenance • carry out routine maintenance on any TWO pieces of equipment or systems, satisfying job, workplace and statutory requirements according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • basic production machines.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Maintenance procedures</i> may include:	<ul style="list-style-type: none"> should meet manufacturer's specifications and requirements.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> range of standard and specialty inks and specialty finishes such as wax, embossing, foils.
<i>Supervision</i> may include:	<ul style="list-style-type: none"> the work is carried out under minimal supervision, exercising initiative and judgement with discretion. Occasional supervision of the work of other personnel may be required.
<i>Cutting units</i> may include:	<ul style="list-style-type: none"> range of semi-automatic and automatic folding, collating and inserting units, in-line or off-line operation.
<i>Machines</i> may include:	<ul style="list-style-type: none"> the operation may apply to a complex machine, various types of machines or all the machinery in a work area. Complex machines include those with electronic, pneumatic, hydraulic or robotics technology.
<i>Printing process</i> may include:	<ul style="list-style-type: none"> all printing processes ie lithographic, flexographic, gravure, relief polymer mechanical printing.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> wide and narrow reel and large and small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU225C Perform small machine maintenance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake basic routine maintenance of small machines and equipment.
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Application of the Unit

Application of the unit	This unit requires the individual to safely carry out routine maintenance on small machines or equipment with minimum down time.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check and replace machine consumables	<p>1.1. <i>Machine consumables</i> are checked and replaced if worn or damaged</p> <p>1.2. Any consumables used are documented for reordering purposes</p>
2. Carry out regular maintenance	<p>2.1. <i>Units or machine sections</i> are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.2. Feeders and conveyers are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.3. Safety devices, gears and bearings are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures</p> <p>2.4. Basic <i>maintenance</i> is carried out according to OHS requirements</p>
3. Complete maintenance	<p>3.1. Any wear and tear to the machinery is documented and/or referred to appropriate person for action</p> <p>3.2. Used consumables are disposed of correctly according to enterprise procedures and OHS requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by referring any wear and tear to the machinery to the appropriate person for action
- collecting, analysing and organising information by documenting any consumables used for reordering purposes
- planning and organising activities by disposing of used consumables correctly according to enterprise procedures and OHS requirements
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by recording quantities or amounts of consumables used
- problem-solving skills by carrying out any basic maintenance according to OHS requirements
- use of technology by using tools and equipment to perform small machine maintenance

Required knowledge

- reel handling system
- OHS requirements when maintaining and cleaning the reel handling system
- common causes of failure or breakdown
- precautions that must be observed when working with compressed air
- damage caused to electronic sensors during cleaning
- checks that were performed on this area of the machine
- particular chemical used for cleaning purposes
- sheet or object handling systems
- OHS requirements when maintaining and cleaning the sheet or object handling system
- common causes of failure or breakdown
- problems with inefficient cleaning
- parts of this area of the machine that require cleaning
- effect of excessive lubricant in this area of the machine
- need for regular maintenance of this area of the machine.
- printing units
- OHS requirements when maintaining and cleaning the printing units
- common causes of failure or breakdown
- a problem that arises due to continual inefficient wash-up of roller surfaces
- necessity to clean the bearers on all cylinders in the printing unit

REQUIRED SKILLS AND KNOWLEDGE

- problems that could result from cylinder bodies not being cleaned correctly
- safety devices that were checked in the printing unit
- action if a safety device is found to be inoperative
- checks that must be carried out when replacing rollers in the inking system
- ancillary units
- OHS requirements when maintaining and cleaning ancillary units
- common causes of failure or breakdown
- checks that were performed on ancillary units
- precautions that should be observed when cleaning ancillary units
- cutting units
- OHS requirements when maintaining and cleaning the cutting units
- common causes of failure or breakdown
- checks that are carried out on cutting devices and knives
- storing of cutting knives after being replaced
- problems that would arise if the machine bed was not maintained
- problems that would arise if blades or knives were not maintained
- folding/collating units
- OHS requirements when maintaining and cleaning the folding/ collating units
- common causes of failure or breakdown
- components that were checked with this equipment
- problems with inefficient cleaning of the folding/collating unit
- parts of this machine that require cleaning
- type of lubricant that was used on this equipment and why
- fastening units
- OHS requirements when maintaining and cleaning the fastening units
- common causes of failure or breakdown
- chemicals that were used when cleaning this equipment
- disposal of used chemicals
- frequency this equipment should be cleaned
- problems that could be caused by inefficient cleaning
- parts of the equipment that should be cleaned?
- result of excessive lubricant in this part of the machine
- information sources
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> correctly and safely carrying out routine maintenance on small machines or equipment with minimum down time. demonstrate an ability to find and use information relevant to the task from a variety of information sources. carry out routine maintenance on any TWO pieces of equipment or systems, satisfying job, workplace and statutory requirements according to the listed Performance Criteria. evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment small machines (such as inline cutters, inline mail machines) and machine consumables.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Machine consumables</i> may include:	<ul style="list-style-type: none"> stacker wheels, belts, suckers, gripper arms, water brush, OMR readers, barcode readers, ink cartridges, knives, blades.
<i>Units or machine sections</i> may include:	<ul style="list-style-type: none"> range of semi-automatic and automatic folding, collating and inserting units, cutters, dryers, in-line or off-line operation.
<i>Maintenance procedures</i> may include:	<ul style="list-style-type: none"> should meet manufacturer's specifications and requirements.
<i>Supervision</i> may include:	<ul style="list-style-type: none"> the work is carried out under minimal supervision, exercising initiative and judgement with discretion. Occasional supervision of the work of other personnel may be required.
<i>Machines</i> may include:	<ul style="list-style-type: none"> the operation may apply to small machines such as inline cutters, inline mail machines

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU235C Lift loads mechanically

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use lifting equipment such as slings, ropes, shackles, eye bolts and spreader beams.
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Application of the Unit

Application of the unit	This unit requires the individual to use basic equipment to lift loads safely.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Attach lifting gear to loads	1.1. All work is undertaken safely and to prescribed procedures 1.2. Load is inspected and best lifting method determined for weight and shape 1.3. Appropriate load shifting <i>equipment</i> is selected 1.4. Lifting gear is inspected and damaged or worn items are labelled and rejected 1.5. Where appropriate, safe working loads are calculated to Australian Standards 1.6. Lifting gear is attached to load in a most appropriate and safe manner and to specifications where required
2. Move loads	2.1. Load moving is performed to acceptable safe working practices, Australian Standards, codes of practice and specifications 2.2. Lifting gear is connected to load mover using safe and appropriate techniques 2.3. Appropriate communication and <i>signals</i> methods are used to coordinate the load movement in a safe manner 2.4. Load is grounded or put down in a safe and stable manner according to prescribed procedure 2.5. All lifting gear is detached from load mover and load

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by using appropriate signals to coordinate movement of the load
- collecting, analysing and organising information by accessing safety and procedure manuals for specific equipment
- planning and organising activities by determining the best method for lifting a load before moving it
- teamwork when working with others to ensure lifting is done in a safe manner
- mathematical ideas and techniques by calculating loads and the holding capacity of various equipment
- problem-solving skills by working out the best sequence and procedure for lifting loads of different size, weight and content
- use of technology by using the range of equipment specified

Required knowledge

- attaching lifting gear and selecting appropriate equipment to lift loads
- references that are available to determine safety practices in lifting loads
- important considerations when lifting loads mechanically
- best method to lift the load
- types of mechanical lifting devices
- circumstances lifting devices are be used
- type of damage that can occur to any particular piece of lifting equipment
- problems that could occur if lifting gear is not attached properly
- applying correct practices to move loads
- safe practices that must be observed when moving loads
- observations when connecting the lifting gear to the load mover
- particular communication technique used for moving the load
- safe distance for personnel that are not involved in moving the load
- other technique for communication that could have been used
- the effects of a load not being grounded correctly
- storage of lifting gear after it has been detached
- information sources
- machine manuals, safety and other documentation that are relevant to this task and where are they kept
- information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • safely lifting loads by using basic equipment such as slings, ropes, shackles, eye bolts and spreader beams • lift TWO loads mechanically according to enterprise and statutory requirements and regulations and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • slings, ropes, shackles, eye bolts, spreader beams and loads.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Equipment range</i> may include:	<ul style="list-style-type: none"> includes slings, ropes, shackles, eye bolts, spreader beams.
<i>Signals</i> may include:	<ul style="list-style-type: none"> include using hands, verbal signals and whistles. Signals may be given within sight and out of sight of equipment operators.
<i>Legislative requirements</i> may include:	<ul style="list-style-type: none"> work is undertaken to state/territory legislative requirements.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU236C Shift loads mechanically

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use pallet trucks, overhead travellers and load shifting equipment. It does not include forklifts.
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Application of the Unit

Application of the unit	This unit requires the individual to shift loads using mechanised equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Attach lifting gear to loads	1.1. Routine pre-use checks are undertaken according to manufacturer's specifications and regulatory safety requirements 1.2. Non-compliance with specifications is reported for repair/replacement
2. Move loads	2.1. Type of material is determined from labels, colour codes, signage 2.2. Material properties are understood 2.3. Load is inspected and best handling method is determined for weight and shape 2.4. All relevant uncertainties and unknowns are clarified with appropriately qualified authority 2.5. All relevant safety and emergency procedures are understood and implemented as required 2.6. All relevant regulations and codes of practices are understood and observed 2.7. Correct and appropriate handling methods are undertaken
3. Shift loads	3.1. Most appropriate load shifting device is selected 3.2. Load shifting device is operated within design specifications and safe working load 3.3. Load is lifted, ensuring balance, vision of operation and protection of load 3.4. Safe and efficient path of movement is selected and used 3.5. Path of movement is checked and monitored for obstacles and hazards and safely maintained
4. Place loads	4.1. Loads are placed ensuring safety, stability, protection of material and avoidance of hazards on site 4.2. Shifting device is removed or secured according to <i>enterprise procedures</i>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by reporting non-compliance with equipment specifications
- collecting, analysing and organising information by determining type of material by reading labels, signage and colour codes
- planning and organising activities by determining handling methods before shifting the load
- teamwork when working with others to ensure safe and timely moving of materials
- mathematical ideas and techniques by calculating loads and volumes
- problem-solving skills by working out best sequence for shifting loads of different sizes, weight and content
- use of technology by using the range of equipment available for mechanically shifting loads

Required knowledge

- maintenance and safety checks for load shifting equipment
- frequency of routine checks on equipment
- reporting problems with load shifting equipment to a responsible person
- circumstances that would necessitate replacement of such equipment
- determining correct handling methods
- type of material colour codes
- information about correct handling methods
- personal injuries that could occur if incorrect handling methods were undertaken
- implementation of safety procedures and their effect on enterprise operations
- statutory authority that is responsible for and regulates safety procedures
- safety requirements for load shifting operations
- licensing requirements that are needed to operate various load shifting devices
- causes that could cause a load to move and become off balance during shifting
- choice of path when shifting the load
- the position shifting devices should be placed in after completing the shifting of the load
- effect of incorrect placement of loads affect job requirements and enterprise procedures
- information sources
- machine manuals, safety and other documentation that are relevant to this task and where are they kept

REQUIRED SKILLS AND KNOWLEDGE

- information that is included in these documents

Evidence Guide**EVIDENCE GUIDE**

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Evidence of the ability to:

- shifting loads mechanically according to legislative and regulatory requirements
- shift TWO loads mechanically using AT LEAST an electric trolley, according to enterprise and statutory requirements and the listed Performance Criteria
- evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- load shifting equipment - not including forklifts.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Enterprise procedures may include:

- work and organisational methods according to enterprise standard operating procedures and legislative requirements.

Range of equipment may include:

- load shifting equipment includes ride pallet trucks, overhead travellers, load shifting equipment operated within limits of manufacturer's recommended procedures and safe working loads.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU241C Undertake warehouse or stores materials processing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to handle, dispatch and receive materials in a warehouse.
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Application of the Unit

Application of the unit	This unit requires the individual to receive, dispatch and handle goods in a warehouse
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Undertake dispatch/receiving procedures	1.1. Warehouse/store standard operating procedures are understood and followed 1.2. Warehouse/store materials are managed according to enterprise standard operating procedures 1.3. Incoming/outgoing materials are labelled according to enterprise standard operating procedures and legislative requirements 1.4. Warehouse/store materials are labelled and stored according to enterprise standard operating procedures and legislative requirements 1.5. Materials are issued/dispatched according to enterprise standard operating procedures 1.6. Issued/dispatched materials are recorded to enterprise standard operating procedures
2. Determine handling methods	2.1. Type of material is determined from labels, colour codes, signage 2.2. Material properties are understood 2.3. All relevant uncertainties and unknowns are clarified with appropriately qualified authority 2.4. All relevant safety and emergency procedures are understood and implemented as required 2.5. All relevant regulations and codes of practices are understood and observed 2.6. Correct and appropriate handling methods are undertaken
3. Shift loads	3.1. Materials are packaged to meet safety, storage conditions, and site and legislative requirements 3.2. Materials are stored in a safe, orderly and retrievable manner 3.3. Load is lifted, ensuring balance, vision of operation and protection of load 3.4. Materials are labelled/identified and recorded according to site procedures and legislative requirements
4. Store bulk fluids/gases	4.1. Correct storage conditions are determined from instructions/manufacturer's specifications/directions 4.2. Containers are checked for safe and clean use 4.3. Containers are filled/emptied according to enterprise standard operational procedures and legislative

ELEMENT	PERFORMANCE CRITERIA
	requirements 4.4. Containers are handled and moved according to site procedures and legislative requirements 4.5. Containers are correctly labelled and stored according to enterprise standard operational procedures and legislative requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by completing dispatch records
- collecting, analysing and organising information by accessing MSDSs and information on storage and handling requirements of goods and materials to ensure safe and secure storage and handling
- planning and organising activities by planning storage so that perishable materials are used in date sequence
- teamwork when working with other staff to ensure appropriate flow of production
- mathematical ideas and techniques by calculating weights and volumes
- problem-solving skills by working out the most appropriate storage and handling procedures for different goods and materials
- use of technology by using computerised stock systems

Required knowledge

- dispatching and receiving production materials
- procedures that are in place for the receipt of goods
- procedures that are in place for the inspection of goods on arrival
- indicators that goods received have been approved for production and comply with the purchase order
- reasons why goods have to be labelled according to operating procedures
- reasons why goods have to be labelled according to legislative requirements
- procedures that are in place if dispatched goods do not reach their destination
- procedures that are in place if goods are not received as requested
- authorised person to sign for goods received
- handling methods and procedures
- production problems that are caused by inconsistent stock handling
- procedure in reporting and recording damaged materials
- could be the alternatives for using damaged stock or materials
- company insurance for damaged stock and materials
- storing and packaging of warehouse/store materials
- the effect of relative humidity and temperature on substrates
- the effect of UV light on exposed rubber blankets or rollers
- materials storage in relationship to their use-by date or shelf life
- storing of heavy or liquid materials on a shelving system

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correct handling, dispatch and receipt of goods in a warehouse/store • demonstrate an ability to find and use information relevant to the task from a variety of information sources • demonstrate handling and storage techniques and procedures for at least THREE different types of goods/materials according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Types of stores/warehouses</i> may include:</p>	<ul style="list-style-type: none"> includes tool, requisition, supply and parts stores, storage, inward/outward warehouse.
<p><i>Range of packaging</i> may include:</p>	<ul style="list-style-type: none"> procedures and materials used are appropriate for applications and product requirements and can include plastic and paper board wrap, anti-corrosion coverings, pallets, drums, sacks.
<p><i>Inventory control processes</i> may include:</p>	<ul style="list-style-type: none"> processes used to control inward/outward goods include inventory control methods and procedures utilising manual or electronic systems according to standard operating procedures.
<p><i>Range of equipment</i> may include:</p>	<ul style="list-style-type: none"> range of equipment used to move warehouse/store goods includes: <ul style="list-style-type: none"> pallet trucks trolleys hand trucks.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU243C Reconcile process outputs

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to reconcile process requirements with process outputs.
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Application of the Unit

Application of the unit	This unit requires the individual to correctly reconcile process requirements with process outputs, document the information and report any discrepancies.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Confirm throughputs</p>	<p>1.1. Field values are verified as corresponding to values identified in job sheet</p> <p>1.2. Where required, mail class is verified as the same as the job sheet</p> <p>1.3. Collated data is correct and in sequence</p> <p>1.4. Collated data is correctly <i>matched</i> to addressee</p> <p>1.5. Address information is verified as accurate</p> <p>1.6. Barcode information confirms correct sequence of addressees to collated information</p> <p>1.7. Any discrepancies are reported to supervisor</p>
<p>2. Reconcile output</p>	<p>2.1. The total number of throughputs is equal to the job specifications</p> <p>2.2. The destination delivery unit rate matches the job specification</p> <p>2.3. An information matching trail is documented</p> <p>2.4. Any discrepancies are reported to supervisor</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by reporting any discrepancies to a supervisor
- collecting, analysing and organising information by verifying field values as corresponding to values identified in job sheet
- planning and organising activities by confirming throughputs before reconciling outputs
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by confirming when the total number of throughputs is equal to the job specifications
- problem-solving skills by reporting any discrepancies to a supervisor
- use of technology by using barcode equipment to confirm throughputs or reconcile outputs

Required knowledge

- basic literacy skills to follow work instructions and read job specifications
- basic numeracy skills to reconcile process outputs
- OHS in relation to working in a safe environment

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> reconciling process requirements with process outputs correctly reconcile process requirements with process outputs, document the information and report any discrepancies evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity equipment and resources required to complete the reconciliation process.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Matched/Matching</i> may include:	<ul style="list-style-type: none"> the process of keeping together a unique insert to the addressee that goes with at least one other unique insert in the same package, or a unique insert to the addressee that goes with the address information located on the outside of the package.
<i>Process output</i> may include:	<ul style="list-style-type: none"> can include mail, credit cards, smart cards or other items requiring close tracking.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU260C Maintain a safe work environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to ensure OHS procedures are followed in environments where computers are predominately used but which may require limited access to chemicals and solvents.</p> <p>The unit is based on Generic Competency A in the National Guidelines for Integrating Occupational Health and Safety Competencies into National Industry Competency Standards [NOHSC:7025 (1998) 2nd edition].</p>
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Application of the Unit

Application of the unit	<p>This unit covers general OHS requirements in business organisations and is relevant for employees using computers and working under direct supervision with no responsibilities for other people.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Follow workplace safety procedures	<p>1.1. Hazards in the work area are recognised while under direct supervision and reported to appropriate people according to enterprise procedures</p> <p>1.2. Enterprise procedures and work instructions for assessing and controlling risks for own area of responsibility are followed accurately while under direct supervision</p> <p>1.3. Enterprise procedures for dealing with incidents (accidents), fire and other emergencies are followed whenever necessary under direct supervision within the scope of responsibilities and competencies</p>
2. Contribute to OHS in the workplace	<p>2.1. OHS issues are raised with appropriate people according to enterprise procedures and relevant OHS legislation</p> <p>2.2. Contributions to participative arrangements for OHS management in the workplace are made within organisational procedures and the scope of responsibilities and competencies</p> <p>2.3. An information matching trail is documented</p> <p>2.4. Any discrepancies are reported to supervisor</p>
3. Ensure workspace health and safety	<p>3.1. Workspace, furniture and equipment are adjusted to suit the ergonomic requirements of the individual</p> <p>3.2. Lighting is adjusted and glare is reduced to ensure healthy lighting levels</p> <p>3.3. Work organisation meets organisational and OHS requirements for computer operation</p>
4. Ensure safety from environmental discharges/emissions	<p>4.1. Chemicals and solvents are correctly stored and appropriate ventilation is available when using chemicals and solvents</p> <p>4.2. Abnormal or unacceptable emission levels are recognised and reported according to enterprise procedures</p> <p>4.3. Emission levels are monitored and measured according to standard operating procedures where appropriate</p> <p>4.4. Correct safety procedures are followed and personal protective equipment used correctly</p> <p>4.5. Containment procedures are applied according to</p>

ELEMENT	PERFORMANCE CRITERIA
	standard operating procedures where required 4.6. Waste removal from work area complies with enterprise procedures and environmental regulations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating and reporting OHS issues
- collecting, analysing and organising information by identifying safety requirements
- planning and organising activities by organising own activities according to OHS procedures while under direct supervision
- teamwork when contributing to safe workplace practices
- mathematical ideas and techniques by recording workplace safety information
- problem-solving skills by recognising and solving routine problems related to hazards while under direct supervision
- use of technology by accessing relevant workplace safety information

Required knowledge

- relevant legislation from all levels of government which affect business operations, especially in regard to OHS and environmental issues, equal opportunity, industrial relations, anti-discrimination and diversity
- ways in which OHS is managed in the workplace including procedures for fire, emergency, accident and near miss and control of risks
- relevant knowledge of workplace hazards
- relevant knowledge of designated personnel responsible for reporting OHS concerns
- understanding of the meaning of OHS signs and symbols relevant to area of work
- literacy skills to identify work requirements, hazard identification and reporting procedures; follow written instructions and to interpret OHS signs and symbols
- communication skills to identify lines of communication, request advice, effectively question, follow safety instructions, receive feedback and report hazards in the workplace
- problem-solving skills to solve routine problems related to hazards in the workplace, while under direct supervision
- technology skills to use equipment safely while under direction
- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • following workplace safety directions/procedures, recognising and reporting hazards, raising OHS issues and contributing to participative arrangements for OHS management in the workplace • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Hazards identification</i> may include:</p>	<ul style="list-style-type: none"> checking equipment or the workstation and work area before work commences and during work, workplace inspections, on-job housekeeping checks.
<p><i>Appropriate people</i> may include:</p>	<ul style="list-style-type: none"> supervisors, managers, team leaders, designated OHS officers, health and safety representatives.
<p><i>Relevant enterprise procedures</i> may include:</p>	<ul style="list-style-type: none"> hazard reporting procedures, job procedures and safe work instructions and allocation of responsibilities, emergency procedures, accident and near miss reporting and recording procedures, consultation on OHS issues, correct selection, use, storage and maintenance procedures for use of personal protective equipment (PPE), control of risks under direct supervision.
<p><i>Emergencies</i> may include:</p>	<ul style="list-style-type: none"> chemical spills, chemical mixes, fire, accidents, occupational violence.
<p><i>Legislation, codes and national standards</i> may include:</p>	<ul style="list-style-type: none"> award and enterprise agreements and relevant industrial instruments relevant legislation from all levels of government which affect business operation, especially in regard to OHS and environmental issues, equal opportunity, industrial relations, anti-discrimination and diversity relevant industry codes of practice.
<p><i>Contributions</i> may include:</p>	<ul style="list-style-type: none"> behaviour that contributes to a safe working environment, identifying and reporting risks or hazards, using business equipment according to guidelines, listening to the ideas and opinions of others in the team, sharing opinions, views, knowledge and skills.
<p><i>Participative arrangements</i> may</p>	<ul style="list-style-type: none"> formal and informal health and safety meetings, meetings called by health and safety

RANGE STATEMENT	
include:	representatives, suggestions, requests, reports and concerns put forward to management.
<i>Ergonomic requirements</i> may include:	<ul style="list-style-type: none"> workstation height and layout, chair height, seat and back adjustment, footrest, screen position, keyboard and mouse position, document holder, posture, avoiding radiation from computer screens, noise minimisation.
<i>Work organisation</i> may include:	<ul style="list-style-type: none"> mix of repetitive and other activities, rest periods, exercise breaks, VDU eye testing.
<i>Emissions</i> may include:	<ul style="list-style-type: none"> a range of environmental conditions including: noise, light, gas, smoke, odour, vapour, liquids/solids. Particles, fumes.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU261C Follow OHS practices and identify environmental hazards

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain basic OHS standards required in the workplace. OHS is integrated into all other units.
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Application of the Unit

Application of the unit	This unit covers basic OHS necessary to function safely in the workplace.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Follow enterprise procedures for hazard identification and risk control</p>	<p>1.1. Hazards in the work area are recognised and reported to designated personnel according to <i>enterprise procedures</i></p> <p>1.2. Enterprise procedures and work instructions for assessing and controlling risks for own area of responsibility are followed accurately while under direct supervision</p> <p>1.3. Enterprise procedures for dealing with accidents, fire and emergencies are followed whenever necessary within <i>scope</i> of responsibilities and competencies</p>
<p>2. Follow enterprise procedures for the control of environmental discharges/emissions</p>	<p>2.1. Abnormal or unacceptable <i>emission</i> levels are recognised and reported according to enterprise procedures</p> <p>2.2. Waste removal from work area complies with enterprise procedures and environmental regulations</p> <p>2.3. Containment procedures are applied according to standard operating procedures where required</p> <p>2.4. Correct safety procedures are followed and personal protective equipment used correctly</p>
<p>3. Contribute to participative arrangements for the management of OHS</p>	<p>3.1. OHS issues are raised with designated personnel according to enterprise procedures and relevant OHS legislation</p> <p>3.2. Contributions to OHS management in the workplace are made within organisational procedures and scope of responsibilities and competencies</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by reporting unacceptable emission levels
- collecting, analysing and organising information by accessing OHS manuals, MSDSs and applying their content to the workplace
- planning and organising activities by applying containment procedures according to workplace requirements
- teamwork when raising OHS issues with designated staff
- mathematical ideas and techniques by monitoring emission levels
- problem-solving skills by following enterprise procedures to deal with accidents, fire and emergencies
- use of technology by using basic fire equipment as required by enterprise procedures

Required knowledge

- significant hazards in the workplace
- major hazards in this workplace.
- safety devices that are on this machine and what are their functions
- location and use of safety equipment and personnel
- location of fire extinguishers and fire exits
- first aid officer in your section
- location of the first aid kit
- enterprise procedures for dealing with fire and accidents
- responding in case of fire or accident
- report any dangerous situation
- symbols used on OHS signs
- meaning of these symbols (eg hazardous chemicals, goggles, footwear, fire equipment)
- safety data sheets
- location of safety data sheets kept and information they contain
- location of information about safe levels for discharges or emissions
- information sources
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> operating safely in the workplace a record of at least one month of following safe working practices evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> • hazard policies and procedures • emergency, fire and accident procedures • procedures for the use of personal protective clothing and equipment • hazard identification and issue resolution procedures • job procedures and work instructions.
<i>Scope</i> may include:	<ul style="list-style-type: none"> • application of relevant OHS legislation and codes of practice including duties and responsibilities of all parties under general duty of care legislation.
<i>Emissions/discharges</i> may include:	<ul style="list-style-type: none"> • noise • light • gas • smoke • odour • vapour • liquids/solids • particulates • fumes.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU262C Communicate in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to participate in clear and logical workplace communication including, written and spoken communication
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Application of the Unit

Application of the unit	This unit covers the basic communication skills required to function effectively in the workplace.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Convey and handle information	1.1. Gather, record and convey simple and routine information in a workplace related <i>context</i> 1.2. Personal interaction is courteous in a workplace related context 1.3. Queries are made clearly and concisely in a workplace related context 1.4. Correct procedures for location and storage of information are employed and the particular workplace practices are adhered to 1.5. Information is organised clearly, concisely and logically and complies with workplace practices 1.6. Workplace documents are completed clearly and accurately within a specified time 1.7. Time is used efficiently in a workplace related context
2. Give and follow simple routine instructions	2.1. Safe work practices are incorporated in the instructions 2.2. Instructions are accurate, clear, concise, comprehensive and are consistent with the skills of the receiver 2.3. Appropriate methods of instruction are selected 2.4. Interaction with others is efficient, effective, responsive, courteous and supportive 2.5. Prescribed sequences are adhered to in a workplace related context 2.6. Routine checking of own and others' performance is exercised 2.7. Task is carried out in a workplace related context
3. Participate in small informal work groups	3.1. Interaction is supportive, efficient, effective and courteous 3.2. Participation in discussions takes place in a workplace related context 3.3. Contributions are constructive in terms of the goal 3.4. Group decisions are understood and confirmed
4. Interact with clients	4.1. Interact with clients within, and external to, an organisation about simple routine matters 4.2. Interaction is consistent with the needs of the organisation and the organisation is presented in a positive and client-centred way

ELEMENT	PERFORMANCE CRITERIA
	<p>4.3. Correct forms of greeting, identification and address are used according to enterprise practices</p> <p>4.4. The needs of the client are clarified and noted where appropriate</p> <p>4.5. Referral processes are followed to establish contact between client and appropriate personnel</p> <p>4.6. Discretion and confidentiality are exercised where appropriate</p> <p>4.7. Appropriate follow-up steps are taken according to enterprise customer service practices</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by understanding and accurately completing job tickets
- collecting, analysing and organising information by reading and understanding and correctly applying the content of machine manuals
- teamwork when participating in work group discussions and effectively and courteously interacting with others during work

Required knowledge

- grammar and spelling
- correct use of relevant industry terminology
- diction and pronunciation
- understanding job specifications
- comprehension
- summarising

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> communicating clearly and precisely in a manner suitable to the work environment demonstrate an ability to find and use information relevant to the task from a variety of information sources written documents and oral reports and reports from colleagues evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Context may include:

- this unit applies to both the production environment and the office environment.

Range of communication may include:

- range of written and spoken communication within the workplace and with clients including telephone, face to face, electronic media and documents.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU263C Perform basic industry calculations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to perform basic trade calculations and measurements.
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Application of the Unit

Application of the unit	This unit covers basic trade calculations and measurements.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Calculate costs and dimensions	1.1. Additions, subtractions, multiplications and divisions of costs and dimensions are correctly calculated 1.2. Material and time costs are correctly calculated for the elements of a brief 1.3. Percentages of cost and time are correctly calculated to fulfil the requirements of a brief 1.4. Results of <i>calculations</i> are correctly recorded
2. Calculate area, density and volume	2.1. The density and/or volume of fluids and colours are correctly calculated and applied 2.2. Percentages of densities and volumes are correctly calculated to fulfil the requirements of a brief
3. Use basic measuring tools and apply results of measurement	3.1. Appropriate <i>measuring tools</i> are selected and used correctly and accurately 3.2. Measurements are correctly interpreted and used in appropriate calculations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by recording the cost of materials and time
- collecting, analysing and organising information by correctly recording the results of calculations
- planning and organising activities by selecting and using appropriate measurement tools as part of the task
- teamwork when working with others as part of the production process
- mathematical ideas and techniques by calculating weights, areas and volumes required by various tasks
- problem-solving skills by correctly calculating enlargements and reductions of shapes
- use of technology by using measuring devices and tools

Required knowledge

- quick approximations of expected answers
- expected answer and why
- use of basic measurement tools
- parallax error and how does it affect measurement
- determining acceptable tolerances in measurement

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • basic measuring tools used in the printing industry, for example micrometers, scales, humidity meters, pH meters, screen angle and screen ruling gauges, dot gain scales and pantone colour matching • demonstrate an ability to find and use information relevant to the task from a variety of information sources • documents detailing calculations • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Types of calculations</i> may include:	<ul style="list-style-type: none"> numerical calculations involved in basic arithmetic, percentages and geometry used in the printing and graphic arts industry.
<i>Measuring tools</i> may include:	<ul style="list-style-type: none"> basic measuring tools used in the printing industry, for example micrometers, scales, humidity meters, pH meters, screen angle and screen ruling gauges, dot gain scales and pantone colour matching.
<i>Calculating methods</i> may include:	<ul style="list-style-type: none"> includes approximation and formal calculations using pen and paper, calculators, computers and other calculating devices.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU271C Provide basic instruction for a task

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to convey technical information to an individual client for their specific use in a clear, concise and coherent manner.
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Application of the Unit

Application of the unit	This unit applies to skilled workers who are instructing other workers in a task during norm
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for training	1.1. Check with individual that <i>training</i> is required and that conditions are suitable for training 1.2. Check that any necessary equipment is available 1.3. Check that sufficient time is available for instructor and trainee
2. Instruct trainee in task	2.1. Instruct trainee in task using appropriate techniques 2.2. Provide individual with details of required knowledge about potential problems and causes of failure 2.3. Provide individual with information about potential hazards 2.4. Allow individual to practise task under supervision 2.5. Encourage individual to ask questions and provide feedback
3. Check that learning has taken place	3.1. Check that individual can perform task to required standard 3.2. Check that the individual is aware of potential problems and causes of failure 3.3. Check that individual is aware of potential hazards and knows how to avoid them
4. Arrange for necessary follow-up training	4.1. Estimate individual's level of skill and their requirements for follow-up training, if required 4.2. Arrange for appropriate follow-up training or supervised practice sessions, if required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by using clear explanations and checking responses to ensure that understanding has taken place
- collecting, analysing and organising information by breaking the task into components for effective training. Theory is matched with practice
- planning and organising activities by effectively sequencing demonstrations, explanations and practice to maximise learning
- teamwork when working with supervisors to ensure that task trained is relevant to job and that trainee has opportunities to use and practise new skills
- problem-solving skills by identifying misunderstandings and inadequate skills and finding remedies for them

Required knowledge

- questioning and active listening for conveying and clarifying information
- basic negotiation skills in relation to other team members
- conveying meaning clearly, concisely and coherently
- basic skills in demonstrating and explaining skills

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> clearly, concisely and coherently conveying technical information to an individual client for their specific use demonstrate an ability to find and use information relevant to the task from a variety of information sources observation of training on TWO separate occasions combined with discussion with the trainer about what has been done and their assessment of trainee's progress evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Scope of training may include:

- training is provided on a one-to-one basis or to small groups of trainees and may include demonstrations and/or descriptions of procedures.

Target group may include:

- this competency applies to skilled workers instructing other workers in a task during routine work.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU280C Enter data into electronic system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to retrieve and amend job information from production machinery.
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Application of the Unit

Application of the unit	This unit requires the individual to pull up job specifications or job information and document changes according to the particular production stage. This unit can be applied to a wide range machines to access job information and transfer information for the next production stage.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access data	<p>1.1.Data required for the job is called up electronically using industry program</p> <p>1.2.Data is checked and amended to conform to job specifications</p>
2. Input data	<p>2.1.Load moving is performed to acceptable safe working practices, Australian Standards, codes of practice and specifications</p> <p>2.2.The data is checked to ensure the output conforms to job requirements</p>

Required Skills and Knowledge

Required knowledge

- relevant printing and publication processes
- aspects related to printing and publication processes that must be considered when transferring electronic files
- computer programs and applications
- converting a file across different computer platforms
- action undertaken to correct a problem should a file fail to transfer correctly
- programs used to manage this file
- file format selection
- consequences of using an incorrect file format
- steps that are required to ensure that the correct file format is used
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> consistently and accurately enter data into the system accurately access and enter data into a machine console or electronic system evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Equipment</i> may include:	<ul style="list-style-type: none"> manufacturing equipment including printing presses, in-line equipment, paper converting equipment.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU281C Use computer systems

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to perform basic functions on a computer.
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Application of the Unit

Application of the unit	This unit covers basic computer skills.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use a stand alone computer/terminal correctly	1.1. Correct posture at the keyboard is adopted according to OHS 1.2. Data is correctly accessed to ensure no loss of data 1.3. Data is manipulated correctly to ensure access, retrieval and storage of data 1.4. Keyboarding technique is safe and meets the speed requirements of the job, if necessary
2. Perform computer/terminal functions	2.1. Data is accessed, saved and retrieved for reference and for amendment 2.2. The appropriate program is selected for the job to be undertaken 2.3. Mouse and/or keyboard functions are used correctly to operate the computer <i>system</i> 2.4. Features of <i>applications</i> are used correctly to deliver a specified output 2.5. Data is saved in correct format and file location 2.6. Master pages, templates and style sheets, as appropriate, are used consistently to ensure data is the same after exchange or transfer

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by effectively using written materials and correct completion of proformas
- collecting, analysing and organising information by accessing user manuals and applying their contents
- mathematical ideas and techniques by calculating file sizes, margins, image sizes and using spreadsheets
- use of technology by using computer systems

Required knowledge

- starting, operating and shutting down the computer
- circumstances should when power is turn off to the computer and why
- start or stop using the computer
- using and sharing a password
- accessing alternative file storage devices
- basic typing skills
- base finger positions on the keyboard
- implication of type at an even pace instead of typing some letters more quickly than others
- use of applications
- mathematical relationship of byte, kilobyte, megabyte and gigabyte
- producing a compressed file
- using master pages, templates or style sheets
- macros
- file formats that are used in your workplace and why
- three common errors and their consequences
- identifying whether you have made a mistake
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly perform basic functions on a stand alone computer/terminal using industry software • demonstrate an ability to find and use information relevant to the task from a variety of information sources • use a stand alone computer/terminal with at least TWO software applications relevant to the printing industry to perform a variety of computing functions, access and save files, according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • a stand alone computer or terminal.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of systems may include:

- computer systems used in the printing industry.

Types of applications may include:

- software used in the printing industry, including: typesetting, image manipulation, page layout, word processing, database, spreadsheet, production control and monitoring applications.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU311C Prepare ink and additives (advanced)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare inks and additives for special colour work or other special purpose inks.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare ink and additives for specialised purposes or new products.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPSU211C Prepare ink and additives.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select ink for special colour work or other specialised purpose	<p>1.1. <i>Inks</i> and additives are selected according to job specifications</p> <p>1.2. <i>Quality</i> and suitability of inks or additives are checked and appropriate action is taken</p> <p>1.3. Inks are selected according to end use of product, suitability of substrate, adhesion, physical and chemical resistance, and light fastness, drying method and print process</p>
2. Maintain and calibrate equipment	<p>2.1. <i>Equipment</i> is inspected to ensure it is functional and where necessary appropriate remedial action is taken prior to commencement</p> <p>2.2. Equipment is calibrated, cleaned and adjusted according to manufacturer's/supplier's instructions</p>
3. Prepare ink for special colour work or other specialised purpose	<p>3.1. Inks and additives are prepared according to OHS requirements and manufacturer's/supplier's instructions with suitable precautions to minimise waste</p> <p>3.2. Correct colour and weight/volume of ink are calculated, mixed and prepared to <i>match</i> the requirements of the job specification and the printing machine to be used</p> <p>3.3. Formulation of the ink and the approved colour is appropriately recorded</p>
4. Store and handle ink	<p>4.1. Inks and additives are appropriately stored, handled and labelled according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by correctly labelling inks and additives
- collecting, analysing and organising information by accessing and using MSDSs and data on inks and substrates to ensure efficient production
- planning and organising activities by selecting inks and additives prior to preparation
- teamwork when maintaining the production process in association with other staff
- mathematical ideas and techniques by calculating volumes, weights and formulations
- problem-solving skills by identifying and correcting formulation problems
- use of technology by maintaining and calibrating equipment

Required knowledge

- safe working conditions that are in place and what health hazards are considered when using inks, solvents and additives
- pollution and environmental issues that need to be considered when working with inks and additives
- substrate characteristics and the end use of the substrate
- ink colour fastness that is required
- ink adhering to the substrate
- solvents, monomers and additives compatibility with the ink
- formula for calculating correct quantity of ink
- computer-based package that is used for calculation of ink quantity
- details that are required in order to calculate ink quantity
- effect of ink coverage on screen mesh, machine and squeegee
- software program and the required inputs
- ideal conditions for matching colours
- effect white mixed in colour have on finished colour light fastness
- methods that are there for checking and adjusting ink colour and consistency
- machine characteristics and other parameters that affect ink deposit and consequently colour
- effects of viscosity changes in the ink
- procedures that are there for recording the formulation by hand or by computer
- approvals for mixed colour prior to commencing production
- process for recording the recipe for the colour

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• labelling mixed inks systems• environmental conditions that are in place for the storage of inks• keeping manufacturer's specifications and MSDSs• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • prepare at least TWO different lots of ink and additives that require special colour matching and match colour sample by manual and electronic means to job specification, industry standards and listed performance criteria. Ideally each lot of ink should be a different type for use on a different substrate • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • inks and additives.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Type of ink, substrate</i> may include:	<ul style="list-style-type: none"> ink and substrates used for special inks used in printing processes relative to industry sectors.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Type of equipment</i> may include:	<ul style="list-style-type: none"> manual and electronic measuring equipment.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> colour matching systems commonly used in the industry.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU321C Pack and dispatch (advanced)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to coordinate and supervise the packing and dispatch of printed products.
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Application of the Unit

Application of the unit	This unit requires the individual to coordinate the packing and dispatch of products.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess final product	1.1. Finished job is collected/received and checked against job specifications according to <i>enterprise procedures</i> 1.2. Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures
2. Assess wrapping and packaging requirements	2.1. Work instructions are checked to determine any specific customer wrapping and <i>packaging</i> requirements 2.2. Product is assessed to determine wrapping, parcelling and packaging requirements 2.3. Product destination and delivery time are confirmed to determine most appropriate delivery mode 2.4. Transportation/shipping requirements are determined
3. Prepare stock for dispatch	3.1. Suitable area for wrapping/packaging is selected and prepared 3.2. Wrapping and packaging materials are prepared 3.3. Product is wrapped in pre-determined parcel sizes as required 3.4. Product is packaged as appropriate to product size, type, destination, delivery route and method of transportation, according to workplace instructions, transportation/shipping regulations and OHS requirements 3.5. Packaged goods are <i>weighed</i> and labelled according to delivery instructions, transportation/shipping regulations and enterprise procedures
4. Dispatch product	4.1. Packaged product is stacked on/in appropriate storage/shipping containers prior to <i>dispatch</i> 4.2. Product is dispatched via appropriate delivery mode according to workplace instructions, enterprise procedures and OHS requirements 4.3. Product shipping details are recorded according to enterprise procedures 4.4. Delivery schedules are monitored and amended as required according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating with printers, transport suppliers and clients about needs and constraints on packing and dispatch of product
- collecting, analysing and organising information by accessing data about packaging products, requirements for packaging and transport and costs and time frames in order to efficiently deliver product
- planning and organising activities by establishing sequences and timelines for packing and dispatch to ensure timely delivery of product
- teamwork when liaising with printers, transport suppliers and clients to ensure timely delivery of undamaged product
- mathematical ideas and techniques by calculating weights, volumes and delivery times
- problem-solving skills by monitoring and amending delivery schedules
- use of technology by using planning software and on-line booking systems for transport

Required knowledge

- quality checking of printed matter for defects and discrepancies
- determining what is a defective print or item
- rectifying defects
- job against job specifications
- specific customer instructions for wrapping, packing and dispatching
- customer's specific requests for wrapping and packing
- ascertaining the quantities required for each destination
- wrapping and packing materials, methods and equipment used
- OHS concerns that are there when using packaging materials and equipment
- type of shipping container that is to be used
- requirements for wrapping manually
- requirements for mechanical wrapping
- packing requirements for the mode of transport being used
- use of weighing machines, scales and labelling equipment
- critical weight of each parcel for dispatch purposes
- importance of weighing and noting the weight of each parcel
- labelling requirements that are necessary
- use of pallet trucks, forklifts and storing and loading goods

REQUIRED SKILLS AND KNOWLEDGE

- OHS requirements for the use of forklifts
- maximum weight that the pallet truck/forklift can lift
- safety measures in place for the use of forklifts
- restrictions that are there for personnel in the use of forklifts
- checks that are in place to ensure goods are correctly loaded onto transport to prevent damage during transit
- monitoring delivery schedules
- ensuring that the time of delivery at each destination complies with client's requirements
- procedures that are in place if parcels do not reach their destination
- information sources
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- modes of transport and writing of consignment notes
- factors that affect the choice of mode of transport for a particular consignment
- arrangements that need to be made for the consignment to be picked up by the transport company
- labelling that needs to be placed on the goods to ensure delivery to the right destination
- consignment note/dispatch documentation that needs to be completed
- the need for the signature of the driver necessary on the documentation
- the need for the time of dispatch be noted on documentation

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • supervising effective packing and dispatching of printed products • supervise the wrapping and packing of a variety of printed matter (at least THREE lots) and dispatch goods to at least THREE destinations to job sheet specifications and according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • resources and product to pack and dispatch.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Packing techniques</i> may include:	<ul style="list-style-type: none"> methods of packing and use of equipment for wrapping and packing of screen printed products.
<i>Weighing techniques</i> may include:	<ul style="list-style-type: none"> accurate use of weighing machines and scales.
<i>Dispatch methods</i> may include:	<ul style="list-style-type: none"> packaging requirements for different methods of transportation of screen printed products (ie courier, interstate).
<i>Type of inspection</i> may include:	<ul style="list-style-type: none"> types of inspection techniques (i.e. 100%, random periodic and continuous in-line inspection).
<i>Product mobility</i> may include:	<ul style="list-style-type: none"> pallet trucks and forklifts for storage and loading of goods.
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU323C Dispose of waste

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to dispose of waste. Handling and consignment of untreated waste is covered in ICPSU203B Prepare and maintain the work area.
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Application of the Unit

Application of the unit	This unit requires the individual to treat waste and dispose of it according to enterprise procedures and government regulations.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare waste	<p>1.1. <i>Waste</i> is stored according to OHS and EPA requirements</p> <p>1.2. Waste treatment system is monitored to ensure correct operation and changes to procedures are recommended if required</p> <p>1.3. Waste is treated, if necessary, to ensure compliance with workplace and EPA standards</p>
2. Dispose of waste	<p>2.1. Appropriate disposal is arranged with regard to waste quality, quantity and EPA and government regulations</p> <p>2.2. Waste is disposed of in an appropriate way to ensure compliance with workplace and EPA standards</p> <p>2.3. Any subcontractors are checked to ensure that they comply with EPA and government regulations</p> <p>2.4. Wastage rates are documented or collated for further review</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with printers, waste agencies and subcontractors about requirements for waste disposal
- collecting, analysing and organising information by using data on waste from EPA and MSDSs to ensure safe and efficient operations
- planning and organising activities by determining the sequence of operations to ensure safe efficient disposal with minimum disruption to production
- teamwork when cooperating with printers and subcontractors to ensure efficient handling and disposal of waste
- mathematical ideas and techniques by calculating volumes, weights and dilution factors
- problem-solving skills by determining the treatment options for different types of waste
- use of technology by correctly using waste disposal equipment

Required knowledge

- disposal procedures
- consequences of a company having excess waste
- segregating and packaging requirements for correct disposal
- handling procedures
- OHS regulations on the handling of waste
- appropriate handling method
- result of incorrectly handling waste
- appropriate storage method
- documentation and statutory requirements
- checking results obtained against enterprise and statutory details
- details that are recorded when recording results of liquid waste treatment
- maintaining waste testing equipment
- OHS concerns related to cleaning and maintaining testing equipment
- need for the equipment be kept clean and maintained
- information sources
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly disposing of waste as required • treat and dispose of TWO lots of waste according to enterprise and statutory requirements and regulations and the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • waste and waste disposal equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Waste environment</i> may include:	<ul style="list-style-type: none"> the competencies apply to personnel who are dealing with waste in the printing industry with appropriate equipment and resources.
<i>Sampling techniques</i> may include:	<ul style="list-style-type: none"> various waste sampling techniques.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU342C Undertake inventory procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use inventory procedures and requisitioning.
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Application of the Unit

Application of the unit	This unit requires the individual to requisition goods and apply inventory procedures.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Use inventory procedures</p>	<p>1.1. <i>Inventory procedures</i> are understood and carried out according to <i>enterprise standard operating procedures</i></p> <p>1.2. Requisition, purchase, shipping and invoice documentation is used as required according to enterprise standard operating procedures</p> <p>1.3. Inward/outward recording/filing system is understood, accessed and maintained according to enterprise standard operating procedures</p> <p>1.4. Customer orders are maintained according to enterprise standard operating procedures</p> <p>1.5. Returned orders are booked back according to enterprise standard operating procedures</p>
<p>2. Requisition goods</p>	<p>2.1. Requisition procedures are understood and carried out according to enterprise standard operating procedures</p> <p>2.2. Goods are requisitioned on time</p> <p>2.3. All recording is completed and filed correctly according to enterprise standard operating procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating with production managers and suppliers about materials
- collecting, analysing and organising information by accessing data on materials, shelf life and suppliers and using these efficiently
- planning and organising activities by establishing procedures to ensure that stores are maintained at appropriate levels
- teamwork when working with other staff to ensure appropriate flow of production
- mathematical ideas and techniques by completing requisition, purchase and shipping documentation
- problem-solving skills by requisitioning goods on time
- use of technology by using inventory and stores software applications

Required knowledge

- standard operating procedures to maintain inventory
- effect that poor inventory control would have on organisational procedures
- difference between requisitioning and purchasing
- type of goods and materials that would be filed under incoming or inward
- type of goods and materials that would be filed under outgoing or outward
- maintaining accurate recording and filing systems for inward/outward goods
- accurately maintaining customer's orders
- reasons for orders be returned
- checks that are made on why the goods are returned
- when goods should be replenished
- routine stocktaking
- system used for stocktaking different types of goods (eg inks, substrates, consumables, perishables)
- responsibility for calculating the value of stock at the date of the stocktake
- records of stock value that are kept
- system that is in place for segregating non-current stock
- requisitioning and recording of goods
- person/people with authority to approve the requisition of goods
- special approval required for the requisition of certain goods or materials
- procedures to indicate that goods received have been approved for production and comply with the purchase order

REQUIRED SKILLS AND KNOWLEDGE

- procedures that are in place for the urgent requisition of goods
- additional information that may need to be recorded prior to filing requisition orders

Evidence Guide**EVIDENCE GUIDE**

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Evidence of the ability to:

- requisitioning goods and correctly applying inventory procedures
- compile a portfolio of inventory paperwork covering ONE month that shows performance criteria have been met
- evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Inventory control processes may include:

- inventory control based on standard operating procedures utilising manual or electronic systems. Standard operating procedures undertaken include Just-in-Time, Kan Ban.

Enterprise procedures may include:

- work and organisational methods according to enterprise standard operating procedures and legislative requirements.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU345C Purchase materials and schedule deliveries

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to purchase materials and schedule deliveries.
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Application of the Unit

Application of the unit	This unit requires the individual to purchase materials and schedule deliveries for production and/or storage. It is applicable to a production section or a stores/warehouse.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify material requirements	1.1. Customer/client is consulted as appropriate and customer order specifications detailed 1.2. Supporting production data is examined 1.3. Materials required are identified including type, quality and quantity 1.4. Quantities required are estimated according to predetermined standards 1.5. <i>Purchase</i> order/list is developed according to enterprise standard operating procedures
2. Purchase materials and schedule deliveries	2.1. Delivery requirements are determined from production plan 2.2. Supplier/vendor is informed of requirements and specifications 2.3. Supply/ <i>purchasing schedules</i> are adjusted where required according to enterprise standard operating procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with production management and suppliers to ensure consumables are available
- collecting, analysing and organising information by gathering and using information about supplies and suppliers, delivery times, usage rates
- planning and organising activities by identifying required materials and organising delivery to support production schedule
- teamwork when liaising with production management and suppliers to ensure consumables are available
- mathematical ideas and techniques by examining production data and determining material requirements
- problem-solving skills by finding alternative suppliers if required and rescheduling deliveries to meet production exigencies
- use of technology by using computerised stock and order systems

Required knowledge

- determining materials and purchasing requirements
- obtaining customer order specifications
- necessity to keep an accurate stock control system
- manual or computer stock control systems that are in place
- replenishing stocks when needed
- purchasing procedures
- preferred suppliers and the products they supply
- raising an order and by whom
- contracts that are listed for purchase orders
- reasons for purchasing contracts
- responsibility for determining the required quantity in the order
- special instructions that could be listed on the order
- maintaining accurate purchasing records
- scheduling materials delivery
- procedures if delivery requirements cannot be met
- possible alternatives if delivery requirements cannot be met
- notification if delivery requirements cannot be met
- adjusting purchasing schedules
- effects that could atmospheric conditions have on materials in storage

REQUIRED SKILLS AND KNOWLEDGE

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|--|
| <ul style="list-style-type: none">• effects that could UV light have on materials in storage |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly purchasing materials and scheduling their delivery • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce a portfolio of paperwork that shows scheduling and purchasing of material deliveries. This should include a record of at least a month during which there were no major interruptions of production caused by absence of materials and no excess inventory in stock • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Purchasing specifications</i> may include:	<ul style="list-style-type: none"> determined from standard job sheets, written and verbal instruction.
<i>Purchasing schedules</i> may include:	<ul style="list-style-type: none"> on site procedures developed for pre-contracted suppliers/vendors.
<i>Contract preparation</i> may include:	<ul style="list-style-type: none"> manual or electronic systems utilising on site system.
<i>Context</i> may include:	<ul style="list-style-type: none"> working within a production team or a warehouse/store section servicing a number of production teams.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU351C Undertake basic production scheduling

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to schedule production for a small work unit. For scheduling within an enterprise or large section see ICPSU455C Supervise and schedule work of others and ICPSU456C Control production.
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Application of the Unit

Application of the unit	This unit requires the individual to schedule production in a small work unit.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify production requirements and capacities	1.1. <i>Printing</i> , converting and finishing production data is identified 1.2.Inventory capacities and requirements are identified 1.3.Procurement and supply requirements and constraints are identified 1.4.Production capacity for the workgroup is identified 1.5.Production constraints for the workgroup are identified 1.6.Standard times for the workgroup are identified
2. Prepare production schedule for small work unit	2.1. <i>Scheduling</i> is done in conjunction with overall scheduling of other units and processes 2.2.Production schedule is prepared according to production, inventory, procurements, time constraints and supply capacities and requirements 2.3.Schedule is documented according to enterprise procedures 2.4.Schedule is modified as required
3. Monitor production	3.1.Production is monitored 3.2.Any necessary changes in scheduling, and the reasons for this, are reported according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with production management and customers
- collecting, analysing and organising information by monitoring production and determining changes required in scheduling
- planning and organising activities by sequencing machinery as efficiently as possible
- teamwork when liaising with other production processes and stores to ensure materials are available
- mathematical ideas and techniques by calculating required consumables and run times of jobs
- problem-solving skills by adjusting schedules to minimise machine down time and/or to accommodate rush jobs
- use of technology by using production control software

Required knowledge

- production requirements and capacities
- job requirements that determine the production processes
- identifying special production requirements and possible problems
- criteria that are used to determine availability of machines, materials and labour
- OHS concerns that need to be considered when planning production
- checking stock levels
- checking internal stock levels
- information that you obtain from outside suppliers that will allow you to establish job priorities
- system that you use to select alternative suppliers
- preparation and documentation of the production schedule
- determining production workflow
- system used to work out job priorities
- purpose of documenting production workflow
- communicating schedules to the workforce
- revising schedules
- monitoring and amending production schedules if required
- consideration that is given to revising production schedules to take into account customer requirements and job complexity

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> effectively scheduling production for a small work unit produce a portfolio that shows all appropriate paperwork for one month's scheduling according to the listed Performance Criteria for a single small production unit in pre-press, printing, screen printing, converting or finishing evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Print processes</i> may include:	<ul style="list-style-type: none"> any processes in pre-press, press, finishing, screen printing.
<i>Scope of scheduling</i> may include:	<ul style="list-style-type: none"> applies to the scheduling for a single small production work unit or production cell, or workstation or work unit; or a single production process where there are only a small number of constraints or variables. The scheduling applies to only a part of the overall production process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU352C Plan operational processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop and plan new or to modify existing, operational or production processes.
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Application of the Unit

Application of the unit	This unit focuses on the systems analysis and design and requires the individual to develop and plan for new or modified operations.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify production requirements	1.1. Overall production schedule is examined to identify production requirements 1.2. Material requirements are identified according to production requirements 1.3. Current <i>processes</i> are identified in consultation with other staff
2. Review customer order specifications	2.1. Customer order specifications are obtained and examined 2.2. Supporting production data is examined 2.3. The production process to be used is determined based on information supplied in production plan
3. Determine process operations	3.1. Existing process operations are reviewed in consultation with management 3.2. Existing problems are clarified with team and customers 3.3. Work operations required are identified in consultation with team 3.4. Suitable machinery or equipment is identified in consultation with team 3.5. Cost and duration are estimated against production estimates 3.6. Recommendations on possible solutions are made and documented
4. Determine production sequence	4.1. Steps required for the process are identified 4.2. Material and equipment requirement lists are prepared and documented 4.3. Quality assurance steps and specifications are identified 4.4. Process steps are documented and clearly represented

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with production workers and customers to identify needs and limitations
- collecting, analysing and organising information by accessing data about machine capabilities, production processes and customer needs and using them in the planning process
- planning and organising activities by modelling and trialling different process operations
- teamwork when working with staff to review existing process operations
- mathematical ideas and techniques by completing a cost benefit analysis of the production process and making projections for different options
- problem-solving skills by considering options for modifying operational processes and choosing the most efficient
- use of technology by using planning and project management software

Required knowledge

- necessity to implement change
- changes to existing production areas that will have to be made
- integrating the operation into existing organisational processes
- materials that are required in addition to existing ones
- alternatives to the chosen process
- process choice
- review that was conducted to assess the process to suit customer requirements
- need for new customers to be sought
- seeking customers
- production plan information that will aid in determining the process
- impact that will the process have on existing operations
- integrating training into existing process operations
- process to eliminate existing production problems
- utilising existing machinery or equipment
- space that will the equipment occupy in the production area
- special provisions that will be necessary to accommodate the equipment
- expected production life of this equipment
- technology that could see this equipment outdated
- production factors that were established from tests and trials

REQUIRED SKILLS AND KNOWLEDGE

- estimating cost savings
- estimated total cost savings per annum
- positive conclusions that can be drawn from the tests and trials
- negative conclusions that can be drawn from the tests and trials
- authority to approve the operational process
- identified steps for the process
- process that have any effect on existing quality assurance steps
- new materials that will need to be supplied
- importance of documenting the steps of the process

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • effective planning or modification of production processes • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce a portfolio that includes paperwork showing planning of operational processes in any ONE of pre-press, printing, screen printing, converting, binding and finishing, corrugating or laminating, according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of processes may include:

- applies to the development of new processes or the modification of existing processes based on known and documented changes to process technology or product. Applies to a part of the overall production process.

Enterprise procedures may include:

- carried out according to established organisational practices and processes and following instructions as to approach. Plan is developed according to accepted organisation practice and procedures
- work for the process element is planned over the specified time frame taking into account resources required and available
- process plan establishes detailed steps required and milestones against which progress can be checked.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU357C Apply quick changeover procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to carry out quick operational changeovers.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an organisation is pursuing quick changeover as one of its competitive manufacturing tools. The operator is also involved in recommending improvements within the scope and authority of their job.</p> <p>This unit is based on the competitive manufacturing initiative competency MCMT220A Apply quick changeover procedures. This unit is from the Competitive Manufacturing Initiative group of competency standards.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for changeover	1.1. Timing of <i>changeover</i> is determined according to production schedule 1.2. All required tools/parts/materials are obtained for changeover 1.3. Process and tools/parts/materials are organised ready for changeover 1.4. Liaison with relevant people is conducted for quick changeover
2. Make quick changeover	2.1. Quick changeover is planned according to quick changeover principles 2.2. Changeover is completed according to enterprise <i>procedures</i> 2.3. Output is checked to meet specifications 2.4. Any steps which cause a problem are noted and changes recommended to problematic steps
3. Improve OHS	3.1. Hazards in all steps/actions are identified 3.2. Risks from each hazard are determined 3.3. Actions which may be performed in a more ergonomic manner are identified 3.4. Changes are recommended to improve OHS

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with relevant staff to facilitate changeover
- collecting, analysing and organising information by determining when changeover will be required according to production schedule
- planning and organising activities by planning a quick changeover according to quick changeover principles
- teamwork when working with others to affect a quick changeover
- mathematical ideas and techniques by checking output to ensure that it meets specifications
- problem-solving skills by identifying actions which may be performed in a more ergonomic manner
- use of technology by using required tools/parts/materials for changeover

Required knowledge

- principles of quick changeover
- relevant procedures
- purposes/requirements of changeover
- methods of recommending changes
- quality requirements for products
- minimisation of changeover scrap

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • routine positive participation in quick changeover procedures • assessment will need to occur in an organisation using quick changeover or a suitable simulation in say a workshop.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • machinery for changeover.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Changeover may include:

- an exchange of dies/tools (traditional), or a change between batches, or it may be any quantum equipment/process change to produce a different product eg plate changeover, stock change producing only the one product or simultaneous range of products. This is not applicable to a maintenance/PVI shutdown as experienced by continuous process manufacturers.

Procedures may include:

- procedures includes all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form.

SMED may include:

- changeover is sometimes referred to as SMED which is a more extreme form where SMED is an abbreviation for Single Minute Exchange of Die; literally, changing a die on a forming or stamping machine in a minute or less; broadly, the ability to perform any set up activity in a minute or less of machine or process downtime. The key to doing this is frequently the capability to convert internal set up time to external set up time. Variations on SMED include:
 - single-digit set up performing a set up activity in a single-digit number of minutes, ie fewer than ten
 - OTED: One touch exchange of die; literally, changing a die with one physical motion such as pushing a button; broadly, an extremely simple procedure for performing a set up activity.

RANGE STATEMENT*Set up time* may include:

- set up time - work required to change over a machine or process from one item or operation to the next item or operation. It can be divided into two types:
- internal set up work that can be done only when the machine or process is not actively engaged in production; OR
- external set up work that can be done concurrently with the machine or process performing production duties.

Unit Sector(s)

Unit sector

Competency field

Competency field

Support

Co-requisite units

Co-requisite units

ICPSU362C Communicate as part of a work team

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to communicate as part of a work team.
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Application of the Unit

Application of the unit	This unit covers communication skills used in work teams.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Participate in group discussions	<p>1.1. The participant's contribution in a small group discussion to reach agreement on a workplace related issue is clearly evident</p> <p>1.2. Personal views are presented in a way that supports the views of others involved in the discussion</p> <p>1.3. Appropriate meeting procedures are adhered to</p> <p>1.4. Information is conveyed in a logical, clear and concise manner</p> <p>1.5. Specified follow up steps are taken</p>
2. Prepare a presentation	<p>2.1. Planning and preparation of a simple <i>presentation</i> is undertaken cooperatively with <i>team members</i></p> <p>2.2. Agreed tasks are completed to schedule</p> <p>2.3. The participant's purpose in the presentation is clearly evident from the context</p> <p>2.4. Interaction is supportive and constructive</p>
3. Present a job related report to a group	<p>3.1. Views are presented clearly and logically and relate to the aims of the presentation</p> <p>3.2. The stated purpose of the presentation is achieved</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by actively participating in work group (or workplace committee eg OHS) discussions
- collecting, analysing and organising information by preparing a job related report to a group
- planning and organising activities by cooperating with team members to make a presentation to a group
- teamwork when participating in a group discussion on a workplace issue
- mathematical ideas and techniques by conveying information in discussion where relevant
- problem-solving skills by being part of a group discussion that proposes actions as a follow up on a workplace issue
- use of technology by using presentation tools and media

Required knowledge

- listening
- speaking
- note taking
- gathering and organising information
- meeting procedure
- group goal-setting techniques
- handling conflict
- negotiation
- presentation techniques and media

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • communication within the team is clear and logical and is understood by the group. Presentations achieve their aims • presentation documentation is clear and logical and meets the aims of the presentations • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Presentation media</i> may include:	<ul style="list-style-type: none"> range of media including overheads, slides, charts, models, computers.
<i>Range of work teams</i> may include:	<ul style="list-style-type: none"> range of workgroups or work teams found in the workplace.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU381C Operate and maintain computer resources

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to undertake basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.
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Application of the Unit

Application of the unit	This unit covers undertaking basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Perform routine system maintenance	1.1. Required equipment is checked to be in working order and available for use 1.2. Peripherals are fitted, maintained, cleaned and adjusted as required 1.3. Personal computer furniture and fittings are adjusted according to OHS practices and protection of equipment 1.4. Routine system maintenance and security processes are performed 1.5. Correct functioning of automated processes is monitored 1.6. Monitors are adjusted only when being calibrated and are otherwise left alone 1.7. All abnormalities and system malfunctions are reported 1.8. Off-line maintenance records are kept up to date
2. Perform backups and restorations on a personal computer	2.1. File system backups are performed regularly according to established workplace practices 2.2. Backup media are labelled, stored and rotated according to established workplace practices 2.3. Files are restored from backup as required 2.4. Data is recovered from damaged and corrupted files using small office tools 2.5. Adequate written records of backups are kept
3. Store and supply consumables	3.1. Consumables are stored and disposed of with regard to OHS, care of equipment and system security 3.2. Stock levels and user needs are monitored to ensure required consumables are available
4. Upgrade and configure a personal computer	4.1. Software and peripherals are installed, upgraded and configured according to enterprise policy 4.2. New software, upgrades and adjustments are tested to ensure adequate performance 4.3. Associated a personal computer furniture and fittings are adjusted to meet workplace standards for OHS and care of equipment 4.4. Written records of <i>installations</i> , upgrades and configurations are maintained
5. Access documentation,	5.1. Documentation, including hardware and software manuals and equipment inventory and service

ELEMENT	PERFORMANCE CRITERIA
records and updates	records, is stored and accessed appropriately 5.2. Supplementary product information, updates and technical reference material are accessed using the Internet, journals and other sources
6. Access and deliver data	6.1. Removable storage devices are connected, disconnected and configured as required 6.2. Data is accessed from different types of file <i>systems</i> 6.3. Data is stored and converted to suit a variety of operating systems, environments and applications 6.4. Data is transmitted effectively by the method most appropriate to the task

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing clear information about protocols and procedures to other system users
- collecting, analysing and organising information by accessing user manuals and on-line resources and organising them for easy use
- teamwork when liaising with other system users to ensure maintenance program causes minimum disruption to production
- mathematical ideas and techniques by calculating file sizes and memory requirements
- problem-solving skills by troubleshooting application problems and system faults
- use of technology by using computer systems

Required knowledge

- OHS requirements for terminal operators
- positioning the keyboard, mouse and screen to avoid fatigue
- foot rest provision
- computing technology
- relationships between baud rate, bits per second and bandwidth
- MIPPS
- function of the video card
- check performed before commencement of a software installation or upgrade
- security and storage of data
- risks that might exist for the system, the enterprise and the user if the a user proceeds to installs their own software to use during their lunch break. Assuming the software is scanned for viruses
- strengths and weaknesses of backup and restoration procedures currently used
- reasons hand-written records are kept
- alerts to, and response to possible security breach or virus attack
- environmental factors that could cause loss of data from removable media
- file preparation, conversion and encoding including cross-platform considerations
- retaining converted file fonts
- differences in file naming conventions between IBM-PC, Macintosh and Unix
- three encoding methods for Internet email transmission of files and state which platform each is used for
- four common graphics file formats
- choosing formats

REQUIRED SKILLS AND KNOWLEDGE

- correct use of network and telecommunications technologies
- Macintosh communication with another computer without using AppleTalk
- types of cabling and network cards that are installed and what is their effect on data transmission speed
- transmitting data at 38400bps using a V34 modem
- initiating a search for product information on the Internet
- most efficient way to exchange files with clients or other companies
- specific hardware, peripherals and consumables for the pre-press area
- SCSI device and how the system refer to SCSI devices
- configuration of a typical high performance pre-press computer
- form of computer language that is used to drive an image setter
- types of removable media commonly used in the pre-press area
- pieces of hardware that require periodical cleaning
- pre-press software
- limiting factor with most DTP pre-press software
- UNIX use in the pre-press production process
- appropriate software required to:
 - scan for a virus
 - produce a logo
 - manipulate an image
 - set up a printer network
 - create a page of text
- manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents
- other sources of information that are available

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly operating and maintaining computer resources. The underlying skill of system maintenance should be transferable across the design and pre-press sectors • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce log books and written records showing system maintenance and configuration history over a period of THREE months, including all reported abnormalities and how they were addressed, stock records • perform a routine system backup and restore a nominated file from an earlier backup • convert a document from one common file format to another and make available for access on a different platform (eg Macintosh application to MS-Windows application via suitably encoded Internet email attachment) • research and report the availability of upgrades and support for TWO pieces of hardware and TWO pieces of software currently in use • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of

EVIDENCE GUIDE	
	portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Types of installations</i> may include:	<ul style="list-style-type: none"> peripherals and software with pre-configured installation routines.
<i>Types of systems</i> may include:	<ul style="list-style-type: none"> multi-user and or network computer systems used in the printing industry including publishing, consultancy, advertising or packaging.
<i>Data transmission</i> may include:	<ul style="list-style-type: none"> methods may include ISDN, removable devices, the Internet.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU389C Undertake basic root cause analysis

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to contribute to an advanced maintenance strategy; competitive manufacturers rely on the use of root cause analysis (RCA) by all personnel.
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Application of the Unit

Application of the unit	In a typical scenario, the employee works in an organisation which is applying competitive manufacturing strategies. This involves the operator in "owning" their process, taking responsibility for it, undertaking basic root cause analysis of problems and generally contributing to increasing the up time and general overall equipment efficiency (OEE). This competency comes from the Competitive Manufacturing Initiative group of competency standards.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Recognise problems	1.1. Equipment/plant condition is monitored according to enterprise procedures 1.2. Product is monitored against quality standards and job specifications 1.3. Conditions/product characteristics indicative of a problem are identified 1.4. An existing work-based problem and/or practice is recognised
2. Implement quick fix	2.1. The immediate problem is controlled/contained 2.2. A quick fix is recommended/implemented within the scope of competency and authority
3. Determine root cause	3.1. A range of possible causes is identified 3.2. Information is gathered to eliminate/confirm causes 3.3. Assistance is sought as required according to level of responsibility and personal capabilities 3.4. Root cause is identified based on examination of the above
4. Develop permanent solution	4.1. A range of methods of eliminating the root cause/breaking the cause tree is identified 4.2. The most appropriate solution is selected based on machinery capabilities, material requirements and job schedules 4.3. Relevant people are liaised with to confirm decision, if required 4.4. Solution is recommend/implemented within the limits of competency and authority 4.5. Implementation is monitored and improvements are made as required

Required Skills and Knowledge

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with relevant people to confirm decision
- collecting, analysing and organising information by monitoring implementation and making improvements
- planning and organising activities by monitoring implementation and making improvements
- teamwork when seeking assistance as required according to level of responsibility and personal capabilities
- mathematical ideas and techniques by gathering information to eliminate/confirm causes
- problem-solving skills by selecting the most appropriate solution based on machinery capabilities, material requirements and job schedules
- use of technology by utilising equipment and tools to analyse capabilities

Required knowledge

- analysis
- problem solving
- communication
- documenting
- root cause analysis methodology
- indicators of a problem
- principles of the process sufficient to undertake a RCA and propose solutions
- use of relevant analysis tools (cause/effect diagrams, Pareto Charts, 4W)

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the competent operator will be able to recognise problems in their process and undertake a root cause analysis, either alone or with assistance, and propose permanent solutions. Evidence of root cause analyses undertaken should be available generally a range of RCA activities will be required in order to generate sufficient evidence.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment will need to occur in an organisation implementing root cause analysis or by simulation or project access to an organisation using RCA.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU458C Monitor production workflow ICPSU482C Troubleshoot and optimise materials and machinery.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Quick fix</i> may include:	<ul style="list-style-type: none"> not all situations can wait for the root cause analysis and eventual elimination of the root cause as there are serious current impacts. The quick fix will control these immediate impacts, but does not eliminate the root cause. The quick fix is sometimes referred to as the "quick and dirty" solution.
<i>Root cause</i> may include:	<ul style="list-style-type: none"> there are many possible causes of any problem. Eliminating some causes will have no impact, eliminating others will ameliorate the problem. However elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.
<i>Cause tree</i> may include:	<ul style="list-style-type: none"> the series of causes is referred to as the cause tree. Not all root causes are accessible and able to be eliminated. Breaking the cause tree in such a way that the problem cannot recur is an acceptable alternative.
<i>Uptime</i> may include:	<ul style="list-style-type: none"> uptime refers to the overall availability of the plant - it is the inverse of downtime or the unavailability of the plant. Ideal uptime is 100%.
<i>Overall equipment efficiency (OEE)</i> may include:	<ul style="list-style-type: none"> the combination of the main factors causing loss of productive capacity from equipment/plant and where: <ul style="list-style-type: none"> availability takes into account losses due to breakdown, set up and adjustments performance takes into account losses due to minor stoppages, reduced speed and idling quality rate takes into account losses due to rejects, reworks and start up waste.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU417C Perform laboratory quality tests of materials and finished product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to quality test materials and printed products in a laboratory.
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Application of the Unit

Application of the unit	This unit requires the individual to perform quality testing in a laboratory.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare laboratory equipment	1.1. Appropriate equipment is selected and prepared 1.2. Equipment is checked for calibration where necessary
2. Test raw materials or finished goods	2.1. Raw material or finished goods specification is identified and test procedure established to determine test parameters 2.2. Raw material or finished goods are tested against specified <i>quality</i> standards using appropriate/prescribed testing procedures and according to OHS requirements
3. Record and report test result	3.1. Recording and reporting of test results are completed according to enterprise requirements 3.2. Problems and issues are documented and reported to appropriate personnel
4. Clean laboratory equipment	4.1. Equipment is cleaned and stored according to enterprise requirements 4.2. Chemicals and waste are disposed of according to enterprise procedures and OHS standards

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by reporting test results according to enterprise requirements
- collecting, analysing and organising information by recording test results
- planning and organising activities by preparing the laboratory equipment prior to conducting tests
- teamwork when maintaining production system in association with other staff
- mathematical ideas and techniques by calibrating and using measuring devices, and calculating dilution factors
- problem-solving skills by recording and reporting test results
- use of technology by using monitoring and diagnostic equipment

Required knowledge

- OHS and other statutory requirements
- OHS concerns that are there in the use of this testing equipment
- statutory requirements that must be met regarding the use of this equipment?
- testing equipment
- necessity to work in a controlled clean environment
- use of this particular equipment
- equipment calibration
- printing processes
- common tests that are required for the various printing operations and products in this company
- common causes of failure in the products that you test
- test that was performed on this product and why
- sampling and quality control techniques
- sampling techniques that are used to select products for testing?
- appropriate size of samples for testing
- record keeping
- records that need to be kept on a particular test product
- purpose of keeping test results
- use of test results in the future
- equipment maintenance
- need to keep this equipment clean
- storing test equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• chemicals that are used to clean the equipment• manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correct performance of laboratory tests for quality of materials and products. The correct disposal of chemicals and waste according to enterprise procedures and OHS standards • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce a portfolio showing completed paperwork for a range of tests that have been carried out and at least one month's record of no complaints from customers (internal or external) about the quality of goods that have been approved • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • laboratory testing equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> • should meet client requirements and enterprise and industry standards.
<i>Record keeping</i> may include:	<ul style="list-style-type: none"> • record keeping procedures may involve independent and varied keyboard operations.
<i>Work environment</i> may include:	<ul style="list-style-type: none"> • the competencies apply to personnel who have access to working in a laboratory situation with appropriate equipment and resources • the work environment application relates to working under minimal supervision exercising initiative and judgement with discretion.
<i>Colour matching systems</i> may include:	<ul style="list-style-type: none"> • use of visual and computer diagnostic systems.
<i>Inks/coatings</i> may include:	<ul style="list-style-type: none"> • range of inks/coatings used in 3-4 or more colour printing and specialty finishes such as laminates, embossing, foils, carbon.
<i>Range of machines</i> may include:	<ul style="list-style-type: none"> • range of pre-press, printing, converting, binding and finishing processes.
<i>Substrate types</i> may include:	<ul style="list-style-type: none"> • range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.
<i>Substrate handling</i> may include:	<ul style="list-style-type: none"> • wide and narrow reel and large and small sheet handling systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU455C Supervise and schedule work of others

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to supervise and schedule the work of a team or individuals.
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Application of the Unit

Application of the unit	This unit applies to supervision and work scheduling for a team leader in charge of a section or shift.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and implement work schedules	1.1. Tasks and/or jobs are identified and prioritised according to the overall production schedule 1.2. Timelines, personnel and equipment are identified for each job and task 1.3. Schedules are communicated logically and in an easily understood manner 1.4. Changes to schedules are implemented through reorganisation of priorities, with reasons being clearly conveyed to the team or individuals 1.5. Priority of tasks is communicated to the team or individuals
2. Monitor performance of tasks	2.1. Required standard is effectively communicated to the team or individuals to ensure understanding of the allotted task 2.2. Instruction or support to achieve required standard is provided as necessary 2.3. Standard of performance is monitored, including quality standards, to ensure achievement of outcomes and is reported according to enterprise procedures 2.4. Completion times of tasks/jobs are monitored and scheduling is adjusted as appropriate
3. Monitor and support development of teams or individuals	3.1. Individual team or worker performance is monitored to determine effectiveness and is reported according to enterprise procedures 3.2. Support is provided to individuals or teams to ensure full participation 3.3. Procedures are provided to assist interaction and feedback on effectiveness between teams and individuals
4. Monitor the application of OHS in the work area	4.1. Implementation of standards, both OHS and environmental, is monitored to determine safety in the work area requirements 4.2. Strategies for prevention or correction of problems are determined from the monitoring process 4.3. Recommendations for prevention or correction are made in order to achieve established standards
5. Communicate with management, work teams and individuals	5.1. All information affecting work is explained logically and in an easily understood manner to team coordinators, teams or individuals where appropriate

ELEMENT	PERFORMANCE CRITERIA
	5.2. Effective and appropriate information provision is carried out with management and/or external personnel 5.3. Written reports are concise and conform to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by effectively communicating with management and/or external personnel
- collecting, analysing and organising information by accessing data about production processes and abilities of workers and customer demands and using these effectively in scheduling
- planning and organising activities by monitoring the performance of tasks and adjusting scheduling
- teamwork when establishing procedures that enable feedback from workers and encouraging suggestions that might enhance production
- mathematical ideas and techniques by calculating job times and manipulating scheduling to make most efficient use of personnel and equipment
- problem-solving skills by adjusting schedules to meet contingencies
- use of technology by using production scheduling and office software

Required knowledge

- OHS standards
- responsible person for OHS standards in the workplace
- reporting procedures that are necessary with OHS matters
- planning and implementing work schedules
- determining priority of jobs
- work scheduling procedures that are used within the organisation
- scheduling changes
- standards monitoring
- information that is reported in performance monitoring
- responsibility for providing instruction to achieve the required standard
- staff and workforce development
- performance monitoring of teams or individuals on performance
- enhancing individual performance
- changes that can be made to enhance team performance
- advantage of providing written reports to management

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • effective scheduling and supervision of a team or individuals • produce a portfolio that demonstrates that each element has been carried out. This can include rosters, schedules, quality related documentation and testimonials from superiors and workers being supervised • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICPSU351C Undertake basic production scheduling.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> the competencies relate to personnel who work independently and may be responsible for a number of employees or in charge of a shift.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU456C Control production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage production of a shift or section
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Application of the Unit

Application of the unit	This unit requires the individual to manage production of a shift or section.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify requirements for efficient production	<p>1.1. Machine operations, staff and production processes are organised to meet production requirements</p> <p>1.2. Recommendations are made related to requirements and according to enterprise procedures, OHS and EPA requirements</p> <p>1.3. Quality standards and safe work practices are checked to ensure compliance with enterprise procedures and legislative requirements</p>
2. Monitor production efficiency	<p>2.1. Compliance to specified requirements (including quality standards, time taken, wastage) is checked to ensure efficiency is maintained</p> <p>2.2. Non-compliance is identified, reported or recorded and investigated to determine causes</p>
3. Implement improvements to production efficiency	<p>3.1. Corrective or preventive action is recommended and implemented where appropriate</p> <p>3.2. Changes are communicated to relevant personnel in a logical and easily understood manner</p> <p>3.3. Changes are monitored to confirm improvement to production efficiency</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by establishing and managing effective oral and written channels with staff and management
- collecting, analysing and organising information by accessing data about machine and personnel capabilities and integrating that with production planning
- planning and organising activities by establishing effective goals for work teams and monitoring performance to implement improvements
- teamwork when working with production staff to maintain production efficiency
- mathematical ideas and techniques by using data from production control systems to adjust planning and scheduling
- problem-solving skills by making changes to production based on non-compliance with quality standards
- use of technology by using production control systems

Required knowledge

- requirements for efficient production standards
- OHS requirements that should be met with production control
- obtaining production process information
- quality standards that were checked to ensure enterprise procedures were met
- quality standards that were checked to ensure EPA requirements were met
- monitoring systems that are available to aid production management
- maintaining production efficiency
- problems that could have caused non-compliance of production efficiency
- reasons for problems arising
- information that is necessary to efficiently plan, schedule and reschedule production
- improving production efficiency
- the authority to implement production changes
- information that needs to be communicated to implement changes to production control

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • effective management of a shift or sections production • produce a portfolio that demonstrates that each element has been carried out. This can include production summaries, quality related documentation and testimonials from superiors and workers being supervised • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Technical guidance</i> may include:	<ul style="list-style-type: none"> the competencies relate to personnel who provide technical guidance and assistance to work teams.
<i>Data sources</i> may include:	<ul style="list-style-type: none"> may include manual records or reports or computerised production monitoring systems.
<i>Decision making</i> may include:	<ul style="list-style-type: none"> decisions may have a significant effect on the results of a production line/unit/department.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU458C Monitor production workflow

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to monitor the workflow, assess job steps and evaluate work progress.
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Application of the Unit

Application of the unit	This unit requires the individual to monitor the workflow, assess job steps and evaluate work progress.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	ICPSU216C Inspect quality against required standards

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Input job	<p>1.1. Each new job is assigned a unique identification number</p> <p>1.2. Baselines are set for the production and budget estimation</p> <p>1.3. The number of actions or steps are identified for each job</p> <p>1.4. The <i>nature of the actions</i> are identified</p>
2. Assess job step	<p>2.1. The job step is identified using business workflow tools</p> <p>2.2. The current step is compared against any baselines set for the job</p> <p>2.3. The number of steps and iterations are identified and any corrective action undertaken if necessary</p> <p>2.4. Actions within each step are logical to the step</p> <p>2.5. Resources required for the current and future steps are identified and availability confirmed</p>
3. Evaluate job progress	<p>3.1. Job progress is evaluated and any improvement modifications to the workflow are identified</p> <p>3.2. Parallel activities have been fully utilised to meet baselines and quality standards</p> <p>3.3. Reports are reviewed and possible process improvements identified</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by setting baselines for the production and budget estimation
- collecting, analysing and organising information by reviewing reports and identifying possible process improvements
- planning and organising activities by identifying resources required for the current and future steps and confirming availability
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by assigning each new job a unique identification number
- problem-solving skills by evaluating job progress and identifying any improvement modifications to the workflow
- use of technology by using equipment to monitor workflow, assess job steps and evaluate work progress

Required knowledge

- setting baselines
- business/production workflows
- process improvement
- job assessment
- scheduling
- resource allocation

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correctly monitoring the workflow, assessing job steps and evaluating work progress • for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • relevant hardware and software or non-computerised systems.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Nature of the actions may include:

- ordering, coordinating, modifying.

Technical guidance may include:

- the competencies relate to personnel who provide technical guidance and assistance to work teams.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU464C Provide customer service and education

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to liaise with customers and clients to ensure satisfactory provision of printed products or services.
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Application of the Unit

Application of the unit	This unit requires the individual to provide service to customers in the printing industry.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish and maintain a positive relationship with the client	1.1. Rapport with client is built and maintained according to accepted business practices 1.2. Opportunities to provide additional services to client are identified 1.3. Client is advised of input requirements and restraints for relevant <i>processes</i>
2. Manage customer expectations	2.1. Match <i>customer</i> needs and expectations with production process requirements 2.2. Job requirements are clarified with client and compared with quote/estimate 2.3. Information and clarifications are passed between client and technical staff 2.4. Job specifications and job parameters are used to define appropriate production procedures and processes 2.5. Knowledge of company services, equipment capabilities, limitations and workflow is demonstrated 2.6. Project is evaluated and feedback provided to client as agreed or according to enterprise customer service practices 2.7. Preliminary proof and contract proof are distinguished according to enterprise standards and that is communicated to the client 2.8. Client is provided with documentation to review and approves all dummies and proofs at appropriate stages in the production process 2.9. Job information (eg work orders, quotes, job tickets) is documented and compiled
3. Manage project budget and timeline	3.1. Client requested changes are monitored and documented and the impact on budget and timeline is communicated to the client 3.2. The client is advised on alternative production techniques

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by acting as a liaison between customer and printer and accurately transmitting the requirements, possibilities and limitations of each to the other
- collecting, analysing and organising information by using data on equipment capabilities, costs and customer requirements to produce a viable quote
- planning and organising activities by ensuring adequate consultation with the customer during the job
- teamwork when working effectively with both customers and production workers to ensure job satisfaction
- mathematical ideas and techniques by developing different quotes for different production options
- problem-solving skills by effectively translating the customer's idea/requirements into a viable product/job
- use of technology by using software for estimating and understanding cross-platform software issues when quoting jobs

Required knowledge

- requirements of all printing processes
- relationship between pre-press, press and post-press
- costs and characteristics of a range of substrates and inks
- information sources

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> effectively managing customer expectations and making client aware of the stages and scheduling of production. Effective customer service demonstrate an ability to find and use information relevant to the task from a variety of information sources provide a portfolio covering a month that demonstrates all paperwork has been completed correctly, jobs are completed within budgets, customers' expectations are met eg by providing written or oral reports or examining work error reports evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of processes may include:

- all printing processes.

Customers may include:

- internal
- external.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU482C Troubleshoot and optimise materials and machinery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to extend the use of materials and adjust and tune machinery to meet efficiency targets.
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Application of the Unit

Application of the unit	This unit requires the individual to experiment with and extend the use of materials and to undertake non-routine adjustment and tuning of machinery to meet efficiency targets.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Review material behaviour	1.1. Evaluation of material or product structure is conducted to identify options for production 1.2. <i>Material handling options</i> are chosen to ensure best performance of materials during production 1.3. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from the materials 1.4. A test runs confirms correct options or the need for further adjustment or trialling to meet quality standards 1.5. Options and recommendations are documented for future reference according to enterprise procedures
2. Tune and adjust machinery	2.1. Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within the manufacturer's specifications 2.2. Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery 2.3. A test runs confirms correct options and settings or the need for further adjustment or tuning to meet quality standards 2.4. Options and recommendations are documented for future reference according to enterprise procedures 2.5. Instruction is provided to machine operator or finisher on new practices, if required
3. Troubleshoot machinery and material problems	3.1. Corrective or preventive action is recommended and implemented where appropriate 3.2. Changes are communicated to relevant personnel in a logical and easily understood manner 3.3. Changes are monitored to confirm improvement to production efficiency 3.4. Ongoing problems are reported according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by communicating changes to relevant personnel in a logical and easily understood manner
- collecting, analysing and organising information by documenting options and recommendations for future reference according to enterprise procedures
- planning and organising activities by assessing options to determine the most effective/efficient method of production
- teamwork when providing instructions to machine operator or finisher on new practices
- mathematical ideas and techniques by conducting test runs to confirm correct options and settings
- problem-solving skills by evaluating material or product structure to identify options for production
- use of technology by working with relevant equipment and machinery

Required knowledge

- need for implementing change
- changes to existing production areas that will have to be made
- integrating the operation into existing organisational processes
- materials that are required in addition to existing ones
- alternatives to the chosen process
- process choice
- review that was conducted to assess the process to suit customer requirements
- different materials used to produce the same results without the production problems
- production plan information that will aid in determining the process
- impact of the process on existing operations
- integrating training into existing process operations
- eliminate existing production problems
- optimising existing machinery or equipment
- special provisions that will be necessary to extend the use of equipment
- expected production life of this equipment and machinery
- technology that could see this equipment outdated
- technology that could improve this equipment or machinery

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • recommend and implement new practices that extend the every day use of materials and machinery and troubleshoot problems material and machinery • produce a portfolio that demonstrates that each element has been carried out. This should include records of standards and monitoring procedures and evidence that they are being effectively carried out • production efficiencies are confirmed through discussions with senior management and review of workplace documentation • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment • machinery and materials.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Material handling options</i> may include:	<ul style="list-style-type: none"> • fanning • stacking • drying • moisture • quantities • mixers • glues.
<i>Technical guidance</i> may include:	<ul style="list-style-type: none"> • the competencies relate to personnel who provide technical guidance and assistance to work teams.
<i>Data sources</i> may include:	<ul style="list-style-type: none"> • may include manual records or reports or computerised production monitoring systems.
<i>Decision making</i> may include:	<ul style="list-style-type: none"> • decisions may have a significant effect on the results of a production line/unit/department.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU485C Implement a Just-in-Time (JIT) system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to facilitate the implementation and operation of a Just-in-Time (JIT)/kanban system in the organisation.
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Application of the Unit

Application of the unit	In a typical scenario, the team leader will need to monitor the operation of the JIT system and facilitate its working. This will involve liaison with stakeholders as well as examining the data generated. They will need to be alert to potential problems and areas for improvement. This unit comes from the Competitive Manufacturing Initiative group of competency standards.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor the operation of the JIT system	1.1. Track value of <i>key measures</i> 1.2. Recognise indicators of poor performance 1.3. Take appropriate <i>quick fix</i> action
2. Liaise with relevant stakeholders	2.1. Regularly communicate with team members regarding the operation of the <i>JIT</i> system 2.2. Communicate with relevant personnel up and down the <i>value chain</i> regarding the operation of the JIT system 2.3. Identify issues with stakeholders and take appropriate quick fix action
3. Improve the JIT system	3.1. Identify areas requiring improvement in the JIT system 3.2. Recognise competency gaps in team members and other stakeholders 3.3. Recognise attitudinal issues in team members and other stakeholders 3.4. Develop appropriate improvement solutions 3.5. Liaise with relevant people regarding these solutions 3.6. Implement/assist with the implementation of the solutions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by regularly communicating with team members regarding the operation of the JIT system
- collecting, analysing and organising information by monitoring the operation of the JIT system
- planning and organising activities by implementing/assisting with the implementation of the solutions
- teamwork when regularly communicating with team members regarding the operation of the JIT system
- mathematical ideas and techniques by monitoring the operation of the JIT system
- problem-solving skills by identifying issues with stakeholders and taking appropriate quick fix action
- use of technology by monitoring the operation of the JIT system

Required knowledge

- reading
- recording
- communicating
- planning
- analysing
- problem solving
- negotiating
- JIT principles relevant to job(s)
- procedures for making/recommending improvements
- reasons for delays/storages/inventories in that section of the value chain under their control and methods of reducing/eliminating them
- competency gap analysis and methods of filling competency gaps
- principles of the manufacturing process relevant to the section/team
- production data generated by the process and its application to JIT

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> The competent team leader will at all times know the state of the JIT system in their area and will take actions to ensure its smooth operation on a day to day basis as well as recommend/undertake actions to improve it long term. Evidence should be available of the team leader's facilitation of the operation of the JIT system and their recommendations for making improvements Evidence should be gathered from an extended period showing routine support for the JIT system and regular improvements made or recommended.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> this unit will need to be assessed in an organisation operating JIT access to an organisation using JIT.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Key measures</i> may include:	<ul style="list-style-type: none"> key measures may include inventory levels, lead time, IFOTIS delivery, productivity/production rate, other measures of pull through the value chain, quality IFOTIS refers to delivery of product In Full, On Time and In Specification.
<i>Quick fix</i> may include:	<ul style="list-style-type: none"> quick fix is action taken to immediately and cheaply control a problem, prevent it getting worse and/or ameliorate its impact, but which does not necessarily solve it long term.
<i>JIT - Just-in-Time</i> may include:	<ul style="list-style-type: none"> JIT - a production scheduling concept that calls for any item needed at a production operation, whether raw material, finished item, or anything in between, to be produced and available precisely when needed, neither a moment earlier nor a moment later.
<i>Value chain</i> may include:	<ul style="list-style-type: none"> competitive manufacturing organisations encompass the entire production system, beginning with the customer, and include the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly "competitive" system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire "enterprise" in its planning.
<i>Kanban</i> may include:	<ul style="list-style-type: none"> Kanban - a card or sheet used to authorise production or movement of an item; when fully implemented, kanban (the plural is the same as the singular) operates according to the following rules: all production and movement of parts and material take place only as required by a

RANGE STATEMENT	
	<p>downstream operation, ie all manufacturing and procurement are ultimately driven by the requirements of final assembly or the equivalent</p> <ul style="list-style-type: none"> the specific tool which authorises production or movement is called a kanban. The word literally means card or sign, but it can legitimately refer to a container or other authorising device. Kanban have various formats and content as appropriate for their usage; for example, a kanban for a vendor is different than a kanban for an internal machining operation Kanban is typically applied to batch type operation and the production is measured in units produced. In continuous manufacturing organisations, production is measured in terms of production rate (eg kg/h, tonne/day) and rate is increased/decreased according to the flow authorisation which may be a kanban (eg ticket, order from a supplier) or may be a SCADA signal from a remote facility (eg customer tank) saying that resupply is required or similar.
<i>SCADA</i> may include:	<ul style="list-style-type: none"> SCADA (System Control and Data Acquisition) is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information to personnel for action.
<i>Pull system</i> may include:	<ul style="list-style-type: none"> a manufacturing planning system based on communication of actual real-time needs from downstream operations ultimately final assembly or the equivalent; as opposed to a push system which schedules upstream operations according to theoretical downstream results based on a plan which may not be current.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU486C Mistake proof a production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to focus on preventing errors/backsliding to a previous behaviour.
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Application of the Unit

Application of the unit	<p>This unit may be undertaken by any person although typically it would be held by a team leader.</p> <p>In a typical scenario a team leader, or a work team, needs to analyse the process they are responsible for and determine methods of ensuring it only produces product that meets the job's quality standards. This unit is from the Competitive Manufacturing Initiative group of competency standards.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse the process	1.1. Identify sources of variability/non-conformance in the process 1.2. Identify critical control points in the process 1.3. Analyse causes of variability/non-conformance
2. Develop preventive techniques/systems	2.1. Liaise with team members and other people to develop mistake proof method of performing operation 2.2. Test and validate <i>mistake proofing</i>
3. Implement permanent fix	3.1. Liaise with relevant people to have systems/ <i>procedures</i> changed to implement solution 3.2. Liaise with relevant people to implement the solution 3.3. Liaise with relevant people to ensure the workforce has an appropriate skills set 3.4. Follow through to ensure implementation occurs
4. Monitor implementation	4.1. Critically observe the implementation 4.2. Compare the results of the implementation against the expected outcomes 4.3. Modify solution to improve outcomes 4.4. Ensure procedures reflect change 4.5. Ensure training and assessment reflect change 4.6. Audit change at agreed period/cycle 4.7. Take action on any observed deviation
5. Seek improvements	5.1. Observe changes against enterprise expectations for production 5.2. Analyse process against enterprise expectations for production

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by liaising with relevant people to have systems/procedures changed to implement solution
- collecting, analysing and organising information by liaising with team members and other people to develop mistake proof method of performing operation
- planning and organising activities by implementing a permanent fix
- teamwork when liaising with team members and other people to develop mistake proof method of performing operation
- mathematical ideas and techniques by implementing a permanent fix
- problem-solving skills by modifying solution to improve outcomes
- use of technology by seeking improvements

Required knowledge

- communication ability to discuss items with both operators and technical support personnel
- problem solving
- analysis
- teamwork
- design conceptualisation
- understanding of their process
- factors in the process which may cause variability
- methods of controlling the variability in the process
- mistake proofing methods relevant to the process/product

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the competent team leader will be able to analyse their process and implement systems to ensure the process is mistake proof and the operators work in a predictable way with little or no chance of mistake. Evidence of actions taken to mistake proof the process should be available one complex project on standardisation of a process or several simpler projects will be needed to gain sufficient evidence.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment needs to occur in a workplace implementing competitive manufacturing or by using a suitable project access to an organisation using a competitive manufacturing approach.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU684C Determine and improve process capability.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Mistake proofing</i> may include:	<ul style="list-style-type: none"> • sometimes known as baka-yoke/poka-yoke - a manufacturing technique of preventing mistakes by designing the manufacturing process, equipment, tools and components/subassemblies so that an operation literally cannot be performed incorrectly; an attempt to perform incorrectly, as well as being prevented, is usually met with a warning signal of some sort.
<i>Procedures</i> may include:	<ul style="list-style-type: none"> • procedures includes all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form • for the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU487C Analyse manual handling processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to analyse manual handling in terms of its efficiency and safety.
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Application of the Unit

Application of the unit	In a typical scenario a team leader or senior team member examines the manual handling component of a job and improves it in terms of safety, effort required and efficiency. This may be conducted for a job performed by others in the team, or it may be for the person's own job. This unit comes from the Competitive Manufacturing Initiative group of competency standards.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess manual handling risks	1.1. Identify <i>manual handling hazards</i> in work area 1.2. Assess risks arising from those hazards
2. Analyse physical effort requirements of job	2.1. Determine basic manual handling requirements of job 2.2. Analyse requirements in terms of components such as lift, move, place, hold 2.3. Analyse items to be handled in terms such as weight, size, shape or other hazards
3. Determine time/effort components of physical effort	3.1. Break required movement pattern down into movement components 3.2. Determine time and effort requirements for movements 3.3. Develop alternative movement patterns 3.4. Determine time and effort requirements for alternative movements 3.5. Determine handling aids required to assist movement 3.6. Determine preferred movement pattern(s)
4. Analyse the ergonomics of physical effort	4.1. Analyse the ergonomics of the preferred movement pattern 4.2. Develop substitute movements for any movement which is not ergonomically sound 4.3. Determine handling aids required to improve ergonomics of required movements
5. Optimise application of physical effort	5.1. Select movement patterns which are ergonomically sound and time and effort efficient 5.2. Train all relevant people to use these methods 5.3. Ensure <i>procedures</i> and practices reflect the optimum methods

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by determining time/effort components of physical effort
- collecting, analysing and organising information by determining time/effort components of physical effort
- planning and organising activities by selecting movement patterns which are ergonomically sound and time and effort efficient
- teamwork when determining time/effort components of physical effort
- mathematical ideas and techniques by optimising application of physical effort
- problem-solving skills by optimising application of physical effort
- use of technology by optimising application of physical effort

Required knowledge

- communication
- analysis
- teamwork
- basic mathematics
- problem solving
- relevant OHS acts and regulations as applied to manual handling
- principles of efficient movement
- principles of efficient job and work method design
- principles of work analysis
- principles of ergonomics/safe movement

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the competent team leader/senior operator will be able to examine any job for its physical components and then determine a better way of doing it. As a side benefit they will become more aware of poor manual handling practice and raise an alert to it. Evidence should be available of the analysis and improvements of the physical/manual handling aspects of jobs in the workplace where evidence is from continuous improvement activities, then a range of such improvements needs to be considered to provide sufficient evidence. Where evidence is coming from one, complex improvement activity then it may provide sufficient evidence.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment should use evidence from the analysis of real jobs or an appropriate simulation access to a workplace which will allow the improvement of physical actions.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Manual handling hazards may include:

- manual handling hazards need to be defined in terms of the relevant OHS acts, regulations, codes of practice, industry standards and best practice.

Procedures may include:

- all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form
- good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

Co-requisite units		

ICPSU488C Ensure process improvements are sustained

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to ensure that the gains which have been made by using improved methods, processes and equipment are sustained as the new standard for the team's area of work and so prevent regression to former practices or digression to less efficient practices.
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Application of the Unit

Application of the unit	<p>This unit applies to an environment where continuous improvement in a manufacturing enterprise is being undertaken.</p> <p>The team leader or other responsible person facilitates and implements methods of ensuring that these improvements are sustained.</p> <p>Improvement initiatives can be made by any number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to the team leader.</p> <p>The unit covers ensuring that team members implement the modified processes so that improvements are sustained and opportunities are taken to suggest further improvements. This unit comes from the Competitive Manufacturing Initiative group of competency standards.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Ensure corrective actions are implemented	1.1. Liaise with relevant people 1.2. Negotiate solutions to allow implementation 1.3. Ensure the supply of resources (equipment, modifications, consumables, people) 1.4. Ensure workforce has relevant competency levels 1.5. Monitor implementation of corrective action 1.6. Make required adjustments
2. Analyse physical effort requirements of job	2.1. Ensure <i>procedures</i> reflect <i>improvements</i> 2.2. Ensure training and assessment <i>systems</i> reflect improvements 2.3. Liaise with relevant people to ensure their support of the new modified system(s)
3. Determine time/effort components of physical effort	3.1. Determine an appropriate audit period/cycle 3.2. Agree on relevant measures/indicators for the improvement 3.3. <i>Measure performance</i> at agreed time(s) using agreed measures 3.4. Investigate the cause(s) of underperformance 3.5. Take appropriate corrective action to improve performance 3.6. Re-audit the improvement on an agreed basis

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by negotiating solutions to allow implementation
- collecting, analysing and organising information by auditing the change
- planning and organising activities by measuring performance at agreed time/s using agreed measures
- teamwork when liaising with relevant people to ensure their support of the new modified system
- mathematical ideas and techniques by ensuring procedures reflect process improvements
- problem-solving skills by ensuring procedures reflect process improvements
- use of technology by analysing performance and auditing the change

Required knowledge

- communication skills
- teamwork
- basic mathematics
- planning
- problem solving
- analysing
- existing procedures
- modified procedures
- overall process of manufacturing relative to improvements being made
- appropriate measures of performance
- business performance goals sufficient to determine best measures of improved performance

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the competent team leader will be able to point to improvements which have been made where they have been active in designing and implementing systems for sustaining the improvement. Evidence should be available of having sustained improvements in the workplace and of reviewing these improvements for their real impact evidence should be available from multiple small changes or from a large change which has had multiple facets implemented over a period of some months.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment will need to occur in a workplace where improvements are occurring, or where specific improvement projects are undertaken for the purpose of providing evidence of competency (among other aims) the unit may also be assessed on a project basis in a simulated environment access to a workplace implementing competitive manufacturing strategies, or where improvement project(s) can be conducted and relevant records are required.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Procedures</i> may include:	<ul style="list-style-type: none"> • all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form • good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.
<i>Improvement</i> may include:	<ul style="list-style-type: none"> • improvement procedures in some enterprises are also known by the term baka-yoke which is a manufacturing technique of preventing mistakes by designing the manufacturing process, equipment and tools so that an operation literally cannot be performed incorrectly; an attempt to perform incorrectly, as well as being prevented, is usually met with a warning signal of some sort; the term poka-yoke is sometimes referred to as a system where only a warning is provided • improvements may be sustained by use of technology so that it is impossible to do the job any other way. However, improvements may also be sustained by changes to process or procedures or other changes to the manufacturing system which, if followed, will sustain the change and this unit may be applied to all these situations.
<i>Systems</i> may include:	<ul style="list-style-type: none"> • any/all of the equipment, process, procedures and work practices that are used to produce the product • a term often used in this context is Kaizen - the philosophy of continual improvement, that every process can and should be continually evaluated and improved in terms of time

RANGE STATEMENT	
	required, resources used, resultant quality and other aspects relevant to the process.
<i>Measuring performance</i> may include:	<ul style="list-style-type: none"> measuring performance is not used literally and may mean the personal taking of measurements, or it may mean arranging for measurements to be taken/made by appropriate personnel. The interpretation of the measurements however is to be undertaken personally.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU516C Set and apply quality standards

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set and manage quality procedures within an enterprise or large section/department.
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Application of the Unit

Application of the unit	This unit requires the individual to identify and implement quality procedures within an enterprise or large section/department.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set quality standards	1.1. Quality of items is determined according to job specifications and enterprise capacity 1.2. Production proofs are prepared for client approval to determine client's requirements 1.3. <i>Quality standards</i> are determined and <i>inspection</i> specifications set for purpose intended
2. Determine inspection specifications	2.1. Inspection variables are determined in consultation with client, or are set to acceptable workplace standards, and are recorded in job specifications 2.2. Type of inspection is determined according to job specifications
3. Carry out inspection	3.1. Criteria for rejection are determined in consultation with machine operator and inspector/racker and recorded in job specifications 3.2. Variation to standards is monitored and action taken to rectify the problem according to <i>enterprise procedures</i> 3.3. Unsatisfactory work is separated according to pre-determined standards
4. Rework job	4.1. Unacceptable items are evaluated and possible methods of reworking are determined according to workplace quality standards 4.2. Reworking is monitored according to enterprise procedures 4.3. Reworked material/substrates is inspected to ensure previously determined requirements are met
5. Evaluate job process	5.1. Production processes are evaluated to determine cause of unacceptable items 5.2. Inspection records are maintained including number of accepted and rejected items, and cause of rejection 5.3. Records are maintained to ensure that faulty processes are identified, recorded and corrected
6. Participate in quality improvement	6.1. Performance is monitored to ensure product or service standards are maintained or improved 6.2. Participation in enterprise quality improvement processes occurs, where applicable

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by ensuring that all workers are aware of quality concepts and procedures and that communication flows easily between production workers and supervisors
- collecting, analysing and organising information by accessing data on production processes and acceptable tolerances for different qualities of work and establishing simple guidelines for quality implementation
- planning and organising activities by establishing procedures for the assessment and maintenance of quality production
- teamwork when ensuring that quality assessing and reporting systems involve all workers
- mathematical ideas and techniques by calculating acceptable tolerances and establishing valid sampling procedures
- problem-solving skills by identifying production problems and establishing procedures to minimise their impact
- use of technology by use of monitoring and diagnostic equipment, and establishment and use of production control systems

Required knowledge

- quality standards
- setting criteria for inspection of print quality set
- quality of artwork/film bearing on the quality of the printed product
- quality standards that have been set by the customer
- inspection specifications against customer standards
- inspection variables
- quality specifications that have been set to make the product acceptable for the purpose for which it was intended
- responsibility for inspection specifications
- specifications that are recorded on the job sheet
- specific inspection standards that have been set for printing and finishing
- causes of failure
- common causes of failure in each production area that need to be monitored
- procedures that have you implemented to minimise the effect of these
- inspection procedures
- criteria for operator inspection (100%, random, periodic or continuous in-line)
- result of unnecessary inspection on production output

REQUIRED SKILLS AND KNOWLEDGE

- minimum number of inspections required to avoid rejects
- information that has been conveyed for the operator to rectify the problem
- responsibility for evaluating the re-work of unacceptable items
- method of re-work that has been determined
- criteria that have been set to monitor the re-work
- requirements that have been established for the inspection of re-working material to customer's specifications
- cause of unacceptable items
- records that are kept of acceptable and rejected items
- records that are kept for the reason for the rejection
- cause for the rejection
- problem rectification
- quality improvements
- information that needs to be monitored so as to maintain standards
- monitoring quality standards
- enterprise improvements on the affect of quality standards

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • correct procedures are implemented within an enterprise or large section/ department to ensure that quality standards are achieved • demonstrate an ability to find and use information relevant to the task from a variety of information sources • produce a portfolio that demonstrates that each element has been carried out. This should include records of standards, and monitoring procedures and evidence that they are being effectively carried out • TWO jobs are inspected during production according to the listed Performance Criteria • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Quality standards</i> may include:	<ul style="list-style-type: none"> should meet client requirements and enterprise and industry standards.
<i>Type of inspections</i> may include:	<ul style="list-style-type: none"> various types of inspection techniques (ie 100%, random, periodic or continuous in-line inspection).
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> range of enterprise procedures within defined work area.
<i>Application</i> may include:	<ul style="list-style-type: none"> this unit applies to managers/supervisors responsible for quality in an enterprise or large production section.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU553C Prepare production costing estimates

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to cost and estimate production processes.
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Application of the Unit

Application of the unit	This unit requires the individual to estimate and determine the cost of production.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify costing estimate requirements	1.1. Labour hours, times and other statistics required are identified and applied in calculations 1.2. Available machine hours are identified and applied in calculations 1.3. Economic batch sizes are identified 1.4. Material requirements are identified and applied in calculations
2. Prepare costing estimates	2.1. <i>Costing</i> estimates are calculated using material, labour and machine costs 2.2. Cost estimate details are calculated
3. Compare estimates with actual costs	3.1. Actual costs are compared with estimates 3.2. Costing basis is adjusted as appropriate

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by consulting with customers and staff to identify problems and issues
- collecting, analysing and organising information by accessing data about customer needs, machine and worker capabilities, capital cost bases; use of data from production control systems
- planning and organising activities by determining required cost estimate details prior to printing estimates
- teamwork when obtaining feedback from production workers to verify estimates against actual costs
- mathematical ideas and techniques by developing of costing models that take all relevant factors into consideration
- problem-solving skills by adjusting the basis for costing as determined by the discrepancy between estimated and actual costing
- use of technology by using tools to assist with calculations

Required knowledge

- OHS and other statutory requirements
- legal requirements that affect the costing of your operations
- printing processes and operations
- information that you require from a client before costing/estimating can be done
- minimising production costs on any given job
- relationships between the processes you are involved in and prior and subsequent operations done to the job
- set up and changeover times determined for your processes
- printing materials
- materials that need to be included in the costing/estimating process
- alternative materials that may determined suitable for a client
- alternative materials or processes suggested to a client
- references and resources about materials and suppliers that do you need to help in costing/estimating
- different costing/estimating methodologies
- particular costing/estimating method choice
- other methods that are there, and when might you use them
- factors that you might adjust in your estimations if they consistently do not match costs

REQUIRED SKILLS AND KNOWLEDGE

- sampling and quality control techniques
- quality checks that are necessary on outsourced materials or other inputs
- effects that quality control have on costing
- production records
- accurate production records keeping
- review production records and actual costs
- computerised production monitoring systems that can be used to accurately assess costs

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> accurately estimating and costing production for valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Type of costing</i> may include:	<ul style="list-style-type: none"> this unit applies to managers/supervisors responsible for quality in an enterprise or large production section.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> established organisational practices and procedures, and incorporate the organisation's known resources and work load as well as identified capacities.
<i>Scope of costing</i> may include:	<ul style="list-style-type: none"> estimates are based on familiar processes using available standard cost item statistics.
<i>Data sources</i> may include:	<ul style="list-style-type: none"> manual records or computerised production monitoring systems.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU554C Manage teams

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to supervise and coordinate other workers.
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Application of the Unit

Application of the unit	This unit requires the individual to supervise other workers and coordinate their work.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lead planning	1.1. A range of questioning and prompting techniques is applied to promote participative team or individual planning 1.2. Proposals are accurately recorded to reflect the outcomes of the planning 1.3. Plans take into account the timelines, responsibilities and production requirements which affect the team or individual 1.4. Tasks are selected to suit skill levels of individuals or team members
2. Lead problem solving	2.1. Problem is clearly defined by the team or individuals involved, and criteria for selecting a solution are identified 2.2. Data or evidence is collected and analysed 2.3. Group or individual is encouraged to contribute to determine solutions 2.4. Alternatives are identified and solution selected 2.5. Implementation is planned and carried out 2.6. Implementation of solution is evaluated to determine effectiveness of decisions
3. Develop individual or team participation	3.1. Support is provided to individuals or team members to ensure full participation 3.2. Procedures are implemented to enable the team or individual to assess effectiveness
4. Check OHS standards in the work area	4.1. Applicable OHS and environmental standards are identified, interpreted and implemented 4.2. Implementation of standards is monitored to determine safety in the work area 4.3. Improvements are recommended in order to achieve established standards
5. Monitor process standards	5.1. Quality and performance standards are identified, interpreted and implemented 5.2. Implementation of standards is monitored to determine effectiveness of process 5.3. Improvements are recommended in order to achieve established quality control standards
6. Communicate with work team, individuals and	6.1. Information affecting work area, including OHS, is given logically and in an easily understood manner to other workers

ELEMENT	PERFORMANCE CRITERIA
management	6.2. Feedback from team members and individuals is sought to assist in the participation process 6.3. Communication and reporting are carried out, where required, with management and/or external personnel in a manner which ensures effective and appropriate information exchange

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by giving clear instructions to workers
- collecting, analysing and organising information by using information about machine and worker capabilities to make best use of resources
- planning and organising activities by planning job sequences and workloads to ensure maximum productivity
- teamwork when leading planning and problem-solving to develop team effectiveness
- mathematical ideas and techniques by accounting for timelines in planning the work of others
- problem-solving skills by leading problem solving with the team
- use of technology by using basic communications and information management tools

Required knowledge

- responsibility for determining the OHS standards
- parties that monitor the OHS standards in the workplace
- power of individuals in the workplace in relation to OHS standards
- need to determine the skill level of workers
- methods of determining skill levels of individual workers
- types of problems that may be determined
- strategies that are in place for the implementation of problem-solving techniques
- methods to encourage team members to participate
- need to assess the effectiveness of implementation procedures
- improving quality and performance standards
- checks that are made to quality standards
- responsibility to implement improvements to process standards
- ramifications of standards not being improved
- effective communication with individuals in the workplace
- feedback implementation
- the importance of gaining feedback

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> effectively supervising and managing the work of others produce a portfolio that demonstrates that each element has been carried out. This can include rosters, schedules, quality related documentation and testimonials from superiors and workers being supervised evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Degree of autonomy</i> may include:	<ul style="list-style-type: none"> the competencies apply to personnel who supervise employees and schedule, under limited supervision, approved work in a team environment.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU561C Implement and monitor OHS

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to implement and monitor the organisation's OHS policies, procedures and programs in the relevant work area to achieve and maintain OHS standards.
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Application of the Unit

Application of the unit	This unit requires the individual to implement and monitor an organisation's OHS policies, procedures and programs. It describes generic OHS competencies applicable for employees with supervisory responsibilities.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Provide information about the organisation's OHS	<p>1.1. Relevant provisions of OHS legislation and codes of practice are accurately and clearly explained to the work group</p> <p>1.2. Information on the organisation's OHS policies, procedures and programs is provided in a readily accessible manner and is accurately and clearly explained to the work group</p> <p>1.3. Information about identified <i>hazards</i> and the outcomes of risk identification and control procedures is regularly provided and is accurately and clearly explained to the work group</p>
2. Implement and monitor OHS	<p>2.1. Organisational procedures for consultation over OHS issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute</p> <p>2.2. Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel for resolution according to enterprise procedures for issue resolution</p> <p>2.3. The outcomes of consultation over OHS issues are made known promptly to the work group</p> <p>2.4. Existing and potential hazards in the work area are identified and reported so that risk assessment and control procedures can be applied</p>
3. Implement and monitor risk control procedures	<p>3.1. Existing risk control measures are monitored and results reported regularly according to enterprise procedures</p> <p>3.2. Inadequacies in existing risk control measures are identified according to the hierarchy of control and reported to designated personnel</p> <p>3.3. Inadequacies in resource allocation for implementation of risk control measures are identified and reported to designated personnel</p> <p>3.4. Work procedures to control risks are implemented and adherence to them by the work group is monitored according to enterprise procedures</p>
4. Implement hazardous events procedures	<p>4.1. Enterprise procedures for dealing with hazardous events are implemented whenever necessary to ensure that prompt control action is taken</p> <p>4.2. Hazardous events are investigated to identify their cause according to investigation procedures</p>

ELEMENT	PERFORMANCE CRITERIA
	4.3. Control measures to prevent recurrence and minimise risks of hazardous events are implemented based on the hierarchy of control if within <i>scope</i> of responsibilities and competencies or alternatively referred to designated personnel for implementation
5. Implement and monitor OHS training	<p>5.1. OHS training needs are identified accurately specifying gaps between OHS competencies required and those held by work group members</p> <p>5.2. Arrangements are made for fulfilling identified OHS training needs in both on and off-the-job training programs in consultation with relevant parties</p>
6. Implement and monitor OHS recordkeeping procedures	<p>6.1. OHS records for work area are accurately and legibly completed according to workplace requirements for OHS records and legal requirements for the maintenance of records of occupational injury and disease</p> <p>6.2. Aggregate information from the area's OHS records is used to identify hazards and monitor risk control procedures within work area according to organisational procedures and within scope of responsibilities</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by using clear oral communication and written materials to raise awareness of OHS and responding to concerns raised by workers
- collecting, analysing and organising information by using aggregate OHS data from records to monitor procedures
- planning and organising activities by establishing OHS committees or working groups to manage risks
- teamwork when ensuring that all staff observe workplace OHS standards
- mathematical ideas and techniques by documenting hazardous events
- problem-solving skills by identifying potentially hazardous situations and resolving them and revising procedures
- use of technology by using a database application

Required knowledge

- all applicable OHS legislation and codes of practice
- hierarchy of control (the preferred order of risk control measures: elimination, engineering controls, administrative controls, personal protective equipment)
- potential hazards of ALL equipment and materials used in the workplace
- significance of EEO principles and practices for OHS
- the importance of other management systems for OHS
- levels of literacy and communication levels of workforce
- teamwork, supervision and training
- information sources

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> effectively implementing and monitoring OHS systems within an organisation produce a portfolio that shows that all performance criteria have been met. This should include procedures, information distributed to workers, records of monitoring and checking procedures and equipment evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of hazards may include:

- hazardous events include accidents, fire and emergencies such as chemical spills or bomb scares. Procedures for dealing with them include evacuation, chemical containment and first aid procedures.

Scope may include:

- to be exhibited in the work area of responsibility according to all relevant OHS legislation, particularly general duty of care, requirements for the maintenance and confidentiality of records of occupational injury and disease, provision of information and training, regulations and codes of practice relating to hazards present in work area, health and safety representatives and OHS committees, and issue resolution.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

ICPSU583C Troubleshoot and optimise the production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to troubleshoot and optimise the production process. This unit focuses on the systems analysis and design.
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Application of the Unit

Application of the unit	This unit requires the individual to troubleshoot and optimise the production process. The individual will evaluate and recommend changes to the production process and adjust and tune machinery to make efficiency gains.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate production for efficiency purposes	1.1. Machine operations, staff and <i>production process</i> organisation are evaluated on an ongoing basis to make production efficiency gains 1.2. <i>Production schedule</i> is analysed according to production output, inventory, procurements, time constraints, supply capacities and requirements 1.3. Quality standards and safe work practices are examined to ensure compliance 1.4. Changeover/make ready <i>processes</i> are reviewed for production efficiency gains 1.5. Recommendations covering the above areas are developed and documented
2. Optimise production efficiency	2.1. Compliance to specified requirements is checked to ensure efficiency is maintained 2.2. Non-compliance is identified and investigated to determine causes 2.3. Production standards or machines are set and/or changed according to enterprise procedures 2.4. Changeover/ make ready times and processes are monitored to ensure times are maintained or improved 2.5. Production schedule is monitored and adjusted according to production output, inventory, procurements, time constraints and supply capacities and requirements to ensure efficiency is maintained
3. Troubleshoot production efficiency problems	3.1. Corrective or preventive action is implemented where appropriate 3.2. Changes are communicated to relevant personnel in a logical and easily understood manner 3.3. Changes are monitored and adjusted to confirm improvement to production efficiency
4. Troubleshoot material and machining problems	4.1. Evaluation of material or product structure is conducted to identify options for production and required tuning and adjustments are completed 4.2. Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy within the manufacturer's specifications 4.3. Options are assessed to determine most effective/efficient method of production, ensuring

ELEMENT	PERFORMANCE CRITERIA
	highest quality and yield from materials and ease of production 4.4. Options and recommendations are documented for future reference according to enterprise procedures
5. Document changes and remedies	5.1. Changes to the production process are documented according to enterprise procedures 5.2. Adjustments to machines are recorded according to enterprise procedures 5.3. Documentation is circulated according to enterprise procedures, if required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by documenting recommendations to optimise the production process
- collecting, analysing and organising information by reviewing the production schedule and evaluating its effectiveness
- planning and organising activities by determining the most effective production processes
- teamwork when communicating with colleagues over changes to production
- mathematical ideas and techniques by determining optimised yield for machinery
- problem-solving skills by compensating or optimising machine idiosyncrasies
- use of technology by evaluating machine operations and making changes to improve the production process

Required knowledge

- setting quality standards
- setting the criteria for inspection of print quality set
- the quality of artwork/film bearing on the quality of the printed product
- quality standards that have been set by the customer
- inspection specifications determined by standards
- identifying production requirements and capacities
- job requirements that determine the production processes
- identifying special production requirements and possible problems
- criteria that are used to determine the availability of machines, materials and labour
- OHS concerns that need to be considered when planning production
- causes of failure
- common causes of failure in each production area that need to be monitored
- procedures that have you implemented to minimise the effect of these
- revising schedules
- monitoring and amending production schedules if required
- consideration that is given to revising production schedules to take into account customer requirements and job complexity
- evaluating re-work methods
- responsibility for evaluating the re-work of unacceptable items
- method of re-work that has been determined
- criteria that have been set to monitor the re-work

REQUIRED SKILLS AND KNOWLEDGE

- requirements that have been established for the inspection of re-working material to customer's specifications
- determining unacceptable items and evaluating production procedures
- determining the cause of unacceptable items
- records that are kept of acceptable and rejected items
- records that are kept for the reason for the rejection
- determining the cause for the rejection and how have you rectified the problem
- quality improvements
- information that needs to be monitored so as to maintain standards
- monitoring quality standards
- enterprise improvements affect on quality standards

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • recommend and implement new, more efficient production processes and troubleshoot problems within the production process that effect efficiency gains • produce a portfolio that demonstrates that each element has been carried out. This should include records of standards and monitoring procedures and evidence that they are being effectively carried out • production efficiencies are confirmed through discussions with senior management and review of workplace documentation • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBFLM509A Promote continuous improvement.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Production context</i> may include:	<ul style="list-style-type: none"> production processes and associated machines/equipment include those generally operating in the various sectors of the printing and graphic arts industry.
<i>Production schedules</i> may include:	<ul style="list-style-type: none"> production schedules may apply to daily or production runs, including repetitive production runs, short runs and quick changes.
<i>Range of processes</i> may include:	<ul style="list-style-type: none"> applies to the development of complex new processes or the modification of existing complex processes based on significant judgement. Applies to the overall production process.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units	

ICPSU684C Determine and improve process capability

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to process capability, which is a statistical concept that allows a practitioner to assess required performance against the actual (as distinct from design) capability of the process.
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Application of the Unit

Application of the unit	<p>This unit would apply to a manager or technical expert support person. Process capability is typically calculated using standard deviations.</p> <p>In a typical scenario a manager (who may have as a job title section leader, production manager or similar) will be responsible for developing plans to improve process capability and following agreement the implementation of the plans to improve process capability. This unit comes from the Competitive Manufacturing Initiative group of competency standards.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Obtain data for process capability study	1.1. Identify the process requiring capability analysis 1.2. Obtain process capability data
2. Analyse data	2.1. Identify causes of systematic variation in liaison with relevant personnel 2.2. Develop solutions to eliminate/minimise systematic variation in liaison with relevant people
3. Take action to improve process capability	3.1. Develop plans to implement solutions 3.2. Liaise with relevant people to implement solutions 3.3. Gain necessary approvals as required 3.4. Monitor implementation and make adjustments as required 3.5. Determine new/revised process capability 3.6. Implement revised process capability regime

Required Skills and Knowledge

Required knowledge

- mathematical
- statistical methods
- communication
- negotiation
- planning
- analysis
- problem solving
- teamwork
- computer operation
- data collection methods
- data processing techniques
- variability and normal distribution
- three sigma or six sigma processes as relevant
- random and non-random results - recognition of assignable causes
- causes of different types of non-random results
- causes of random variation
- process understanding sufficient to translate the data into variations in the process and determine methods of controlling them

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> the manager should be able to implement and review a process capability system and make improvements to the process using process capability as a tool. Evidence should be available of the conducting of process capability studies, the improvement to process capability as a result of these studies and the implementation of a revised process capability regime one complex project or several simpler projects will be needed to gain sufficient evidence.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> assessment needs to occur in an organisation using process capability as a tool for process monitoring and improvement. It may also be assessed using a suitable project access to an organisation using process capability.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICPSU583C Troubleshoot and optimise the production process.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Six sigma may include:

- a vision of quality which equates to only 3.4 defects per million opportunities for each product or service transaction
- six sigma is a statistical tool for recording defects and determining capability. Six sigma is also used as a general term covering a competitive manufacturing approach.

Three sigma may include:

- traditional statistical process control uses three sigma limits which equates to 3 defects per thousand opportunities for each product or service transaction.

Procedures may include:

- procedures includes all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form.
- for the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Support
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Co-requisite units

Co-requisite units		

AUM4012A Apply quality assurance techniques

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the application of the required skills and knowledge to apply quality assurance techniques to all operations involving plant, tooling, equipment or systems required for the design, development and production of motor vehicles.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	<p>The unit applies to the automotive and related component manufacturing environment and involves application of skills and knowledge to be used within the scope of the person's job and authority.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	Nil	Nil
	Nil	Nil

Employability Skills Information

Employability skills	This unit contains Employability Skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret and apply quality standards	1.1. Applicable <i>organisation requirements</i> relevant to <i>applying quality assurance techniques</i> are verified and complied with throughout the work activity 1.2. <i>Instructions</i> and plans are read and interpreted to identify processes and materials to complete work tasks 1.3. Quality standards are interpreted and applied to individual and team work 1.4. Process improvement tools are used either individually or in a team to identify and solve design, development and production quality problems
2. Monitor and report on quality	2.1. Quality of all received, in-work and finished materials and products is checked and appropriate action taken in accordance with quality management strategies 2.2. Change in quality of performance is monitored using quality improvement tools and feedback data 2.3. Further action to improve quality is recommended, where required, using standard operating procedures either individually or in a team
3. Implement quality improvement	3.1. Analytical tools are used to evaluate principal causes of process variation and the success of project improvement strategies 3.2. Outcomes of the evaluation of principal causes of process variation are used in a continuous cycle of quality improvement

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- speak clearly and directly in order to recommend actions to further improve quality
- apply teamwork to a range of situations, including in the utilisation of process improvement tools to identify and solve quality problems
- solve problems particularly in teams in order to meet performance indicators
- show initiative in adapting to changing work conditions or contexts particularly when working across a variety of work areas
- access, interpret and apply information on relevant organisation policies, procedures and instructions, particularly to ensure quality standards to be applied throughout the organisation are correctly interpreted
- manage time when planning, preparing and organising work priorities
- take responsibility for organising own work priorities.

Required knowledge

- relevant Occupational Health and Safety and Environmental legislation, regulations, standards and codes of practice and organisation policies and procedures needed to carry out work in a manner which ensures the safety of people, equipment and the environment.
- methods for interpreting performance results
- operation of systems and components
- organisational supply/replenishment systems and processes for materials, equipment and tools
- types of tools and equipment and procedures for their safe use, operation and maintenance
- environmental protection requirements relating to the disposal of waste material
- established communication channels and protocols
- problem identification and resolution
- methods for interpreting and applying quality standards
- methods for implementing quality improvement
- procedures for the recording, reporting and maintenance of workplace records and information.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • compliance with relevant legislation, regulations, standards, codes of practice and established safe practices and organisation policies and procedures for the application of quality assurance techniques • working and communicating effectively and positively with others involved in the work • applying, within authority, the requirements of the job or work role in relation to: <ul style="list-style-type: none"> • applying continuous improvement • preparing reports of results • achieving work quality goals • completing work area housekeeping requirements including the documentation of project activity and process outcomes.
Context of and specific resources for assessment	<ul style="list-style-type: none"> • assessment of the competency should take place in a safe working environment in a passenger motor vehicle manufacturing plant or simulated environment using tools/equipment/machinery required for the production process without undue disruption to the production process • assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment methods must confirm consistency and accuracy of performance (over time and in a range of organisation relevant contexts) together with application of underpinning knowledge • assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• assessment may be applied under project related conditions (real or simulated) and require evidence of process• assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practices • environmental management (waste disposal, recycling and re-use guidelines) • emergency and evacuation procedures • equipment use procedures • ethical standards • legal obligations • maintenance and storage procedures • OHS requirements • organisational and site guidelines • policies and procedures relating to own role and responsibility • procedural manuals • quality assurance guidelines • quality and continuous improvement processes and standards • recording and reporting guidelines.
<p><i>Applying quality assurance techniques</i> may include:</p>	<ul style="list-style-type: none"> • the application of quality management techniques including continuous improvement in the design, development and production of motor vehicles.
<p><i>Instructions</i> may include:</p>	<ul style="list-style-type: none"> • workplace procedures relating to the use and operation of tools and equipment • departmental requirements • workplace instructions, including job sheets, plans, specifications, drawings and designs • workplace procedures relating to reporting and communications • manufacturers' instructions for the use of equipment and materials.

Unit Sector(s)

Unit sector	Automotive Manufacturing
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Competency field

Competency field	Passenger Motor Vehicle
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Co-requisite units

Co-requisite units		
	Nil	Nil
	Nil	Nil

BSBCCO201A Action customer contact

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to respond effectively to customer contact.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit is applied in any customer contact environment where a variety of communication channels and technologies are used and calls are inbound and/or outbound.</p> <p>Competence in this unit requires responding to a wide range of customer enquiries and contacts over a variety of communication methods (telephone, email, letter, facsimile). Compliance with organisational, legislative and regulatory requirements is required, as is the ability to respond in a manner that meets both customer and business needs.</p> <p>This work is undertaken with some supervision and guidance.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for customer contact	1.1. Obtain and study product or service details relating to <i>customer contact</i> 1.2. Study prepared <i>call/contact guides or scripts</i> 1.3. Locate <i>sources of information</i> that may be required to develop product or service expertise 1.4. Develop a clear understanding of <i>enterprise policies and procedures</i> 1.5. Develop proficiency with <i>equipment and systems</i> to effectively and efficiently manage contact 1.6. Clarify any unclear details with relevant manager 1.7. Identify and use safe working methods
2. Provide responsive and quality service in response to customer queries	2.1. Greet customer in accordance with enterprise protocol 2.2. Respond in a manner to effectively encompass cultural diversity 2.3. Effectively establish and clarify customer needs 2.4. Satisfy customer needs promptly, efficiently and effectively to maximise customer satisfaction, and to minimise delays and the need to refer customer elsewhere 2.5. Respond to customer concerns in a positive manner and in line with enterprise policy for complaint resolution 2.6. Treat customer with respect and courtesy, and enhance and develop customer loyalty 2.7. Complete follow-up action effectively in accordance with the timeframes, business rules and practices, and in line with customer expectations
3. Arrange provision of a product or service	3.1. <i>Respond appropriately</i> to customer requirements and identify relevant options 3.2. Select appropriate product or service in consultation with customer 3.3. Agree actions or orders with customer giving consideration to maximising value and service delivery to customer 3.4. Consider any <i>customer retention options</i> that can be applied to the contact 3.5. Use clear, simple and easy to understand language and ensure responses are comprehensive

ELEMENT	PERFORMANCE CRITERIA
4. Manage customer contact	4.1. Record details of contact in accordance with policy 4.2. Record and report any difficulties not escalated but that may present an opportunity for continuous improvement 4.3. Adapt to the requirements and expectations of various customers when working in an <i>outsourced environment</i> and dealing with multiple customer bases 4.4. Escalate inquiries or orders that cannot be satisfied immediately 4.5. Supply follow-up information to customer as required and in a timely manner 4.6. Observe <i>relevant legislation, codes, regulations and standards</i> throughout transaction

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- customer service skills to deliver required level and quality of customer service
- communication skills to relate to people from diverse backgrounds and people with diverse abilities
- interpersonal skills to establish rapport and to build relationships with customers
- listening and questioning skills to understand and clarify the needs of customers
- literacy skills to communicate and articulate effectively over the required channels
- numeracy skills to analyse, calculate and validate data accurately as required
- organisational skills to manage own tasks and to meet timeframes
- stress and time management skills to handle difficult customers and peak periods of activity in a positive and enthusiastic manner.

Required knowledge

- enterprise communications channels
- enterprise performance and customer service expectations
- enterprise policies, procedures, protocols and guidelines
- financial delegations policy
- operational environment - customer base, company products and services
- principles of customer service
- stress and time management techniques
- technology and systems.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • accurate recording of data • knowledge of enterprise products and services • knowledge of compliance requirements • meeting of agreed standards of contact • understanding of performance targets • use of technology (may be modified for use by people with a disability).
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to IT equipment • access to workplace information and data • access to performance management records and data • access to quality assurance guidelines and call/contact guides.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • direct observation during contact (may be done by doublejacking on telephone system) • review of documentation of performance against target • review of quality assurance feedback • review of accuracy of data and record entry • oral and/or written questioning to assess knowledge of the enterprise, legislative and regulatory requirements, and products and services • observation of practical demonstration of sourcing required information.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE	
	for example: <ul style="list-style-type: none">• BSBCCO301A Use multiple information systems• BSBCUS301A Deliver and monitor a service to customers.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Customer contact</i> may include:	<ul style="list-style-type: none"> • email • face-to-face • facsimile • internal, external and outsourced customers • internet • letter • telephone
<i>Call/contact guides or scripts</i> may relate to:	<ul style="list-style-type: none"> • call closing technique • call flow • features and benefits • greeting etiquette • pricing • product/service features • regulatory, legislative and organisational requirements
<i>Sources of information</i> may include:	<ul style="list-style-type: none"> • brochures and pamphlets • campaign briefs • internet and intranet • instruction or product manuals
<i>Enterprise policies and procedures</i> may include:	<ul style="list-style-type: none"> • scope of the services to be provided • financial and decision making delegations • referral/escalation paths
<i>Equipment and systems</i> may include:	<ul style="list-style-type: none"> • computer equipment - may be modified for use by people with a disability • information management systems • telecommunications equipment - may be modified for use by people with a disability • workflow management systems
<i>Customer retention options</i> may include:	<ul style="list-style-type: none"> • loyalty programs or incentives • offering value added services or products • re-contracting • special offers as determined by the enterprise

RANGE STATEMENT	
	from time to time
<i>Outsource environment</i> may include:	<ul style="list-style-type: none"> • customer contact environment servicing customers of another enterprise or business unit by agreement • customer contact environment taking contacts for multiple enterprises • customer contact environment taking overflow calls for another enterprise
<i>Relevant legislation, codes, regulations and standards</i> may include:	<ul style="list-style-type: none"> • Consumer Credit Code • Do Not Call Register • equal employment opportunity and anti-discrimination legislation • Freedom of Information • industry specific codes, regulations and legislation • occupational health and safety legislation • Privacy Act • Trade Practices Act
To <i>respond appropriately</i> participants may be required to:	<p>record details in enterprise system/s</p> <p>discuss, agree and record supply arrangements with customer</p> <p>discuss and agree on payment options with customer</p> <p>conduct a credit check</p>

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Stakeholder Relations - Contact Centre Operations
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Co-requisite units

Co-requisite units		

BSBCMM401A Make a presentation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit covers the performance outcomes, skills and knowledge required to prepare, deliver and review a presentation to a target audience.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who may be expected to make presentations for a range of purposes, such as marketing, training, promotions, etc. They contribute well developed communication skills in presenting a range of concepts and ideas.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare a presentation	1.1. Plan and document presentation approach and intended outcomes 1.2. Choose <i>presentation strategies, format and delivery methods</i> that match the <i>characteristics</i> of the target audience, location, resources and personnel needed 1.3. Select <i>presentation aids, materials and techniques</i> that suit the format and purpose of the presentation, and will enhance audience understanding of key concepts and central ideas 1.4. Brief others involved in the presentation on their roles/responsibilities within the presentation 1.5. Select <i>techniques to evaluate presentation effectiveness</i>
2. Deliver a presentation	2.1. Explain and discuss desired outcomes of the presentation with the target audience 2.2. Use presentation aids, materials and examples to support target audience understanding of key concepts and central ideas 2.3. Monitor non-verbal and verbal communication of participants to promote attainment of presentation outcomes 2.4. Use persuasive communication techniques to secure audience interest 2.5. Provide opportunities for participants to seek clarification on central ideas and concepts, and adjust the presentation to meet participant needs and preferences 2.6. Summarise key concepts and ideas at strategic points to facilitate participant understanding
3. Review the presentation	3.1. Implement <i>techniques to review the effectiveness</i> of the presentation 3.2. Seek and discuss reactions to the presentation from participants or from key personnel involved in the presentation 3.3. Utilise feedback from the audience or from key personnel involved in the presentation to make changes to central ideas presented

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- facilitation and presentation skills to communicate central ideas of a message in an informative and engaging manner, and to utilise verbal and non-verbal techniques to sustain participant engagement
- literacy skills to prepare presentation information and to write in a range of styles for different target audiences.

Required knowledge

- data collection methods that will support review of presentations
- industry, product/service
- key provisions of relevant legislation from all forms of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - environmental issues
 - occupational health and safety
- principles of effective communication
- range of presentation aids and materials available to support presentations.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • preparation, delivery and evaluation of the effectiveness of at least two presentations related to the candidate's occupation or area of interest • knowledge of the principles of effective communication.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment, documentation and resources.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • demonstration of preparation, delivery and evaluation of a presentation • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • review of selected presentation aids, materials and techniques • review of briefing provided for others involved in the presentation • evaluation of techniques implemented to review the effectiveness of the presentation.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other general administration units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Presentation strategies</i> may involve:</p>	<ul style="list-style-type: none"> • case studies • demonstration • discussion • group and/or pair work • oral presentations • questioning • simulations and role-play
<p><i>Presentation format and delivery methods</i> may include:</p>	<ul style="list-style-type: none"> • advertising copy • audio • direct marketing copy • individual presentation • public relations copy • scripts • storyboards • team presentation • verbal presentation • video • visuals
<p><i>Characteristics</i> may include:</p>	<ul style="list-style-type: none"> • age • cultural and language background • educational background or general knowledge • gender • language, literacy and numeracy needs • physical ability • previous experience with the topic
<p><i>Presentation aids and materials</i> may include:</p>	<ul style="list-style-type: none"> • computer simulations and presentations • diagrams, charts and posters • models • overhead projector • paper-based materials • video and audio recordings • whiteboard

RANGE STATEMENT	
<i>Presentation techniques</i> may include:	<ul style="list-style-type: none"> • animation • comparative advertising • live action • music • signature elements such as: <ul style="list-style-type: none"> • slogans • logotypes • packaging • sound effects • use of a guest speaker • use of black and white • use of colour • use of humour
<i>Techniques to evaluate presentation effectiveness</i> may include:	<ul style="list-style-type: none"> • action research • critical friends • focus group interviews • one-on-one interviews with participants and other personnel involved in the presentation • written feedback provided by participants

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Communication - Interpersonal Communication
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Co-requisite units

Co-requisite units	

Co-requisite units		

BSBCUS301B Deliver and monitor a service to customers

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i></p> <p>Revised unit. Performance criteria amended so that the learner is not required to 'incorporate evidence of customer satisfaction in decision to modify products or services'. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p> <p>Replaces BSBCUS301A Deliver and monitor a service to customers</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to identify customer needs and monitor service provided to customers. Operators may exercise discretion and judgement using appropriate theoretical knowledge of customer service to provide technical advice and support to customers over either a short or long term interaction.

Application of the Unit

This unit applies to individuals who are skilled operators and apply a broad range of competencies in various work contexts.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Identify customer needs	<p>1.1 Use <i>appropriate interpersonal skills</i> to accurately identify and clarify <i>customer needs and expectations</i></p> <p>1.2 Assess customer needs for urgency to determine priorities for service delivery according to <i>organisational requirements</i></p> <p>1.3 Use <i>effective communication</i> to inform customers about available choices for meeting their needs and assist in the selection of preferred options</p> <p>1.4 Identify limitations in addressing customer needs and seek appropriate assistance from <i>designated individuals</i></p>
2. Deliver a service to customers	<p>2.1 Provide prompt service to customers to meet identified needs in accordance with organisational requirements</p> <p>2.2 Establish and maintain appropriate rapport with customers to ensure completion of quality service delivery</p> <p>2.3 Sensitively and courteously handle <i>customer complaints</i> in accordance with organisational requirements</p> <p>2.4 Provide assistance or respond to customers with <i>specific needs</i> according to organisational requirements</p> <p>2.5 Identify and use available <i>opportunities</i> to promote and enhance services and products to customers</p>
3. Monitor and report on service delivery	<p>3.1 Regularly review customer satisfaction with service delivery using <i>verifiable evidence</i> according to organisational requirements</p> <p>3.2 Identify opportunities to enhance the quality of service and products, and pursue within organisational requirements</p> <p>3.3 Monitor procedural aspects of service delivery for effectiveness and suitability to customer requirements</p> <p>3.4 Regularly seek customer feedback and use to improve the provision of products and services</p> <p>3.5 Ensure reports are clear, detailed and contain recommendations focused on critical aspects of service delivery</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify trends and positions of products and services
- communication skills to monitor and advise on customer service strategies
- literacy skills to:
 - edit and proofread texts to ensure clarity of meaning and accuracy of grammar and punctuation
 - prepare general information and papers according to target audience
 - read and understand a variety of texts
- problem-solving skills to deal with customer enquiries or complaints
- technology skills to select and use technology appropriate to a task
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - financial legislation
 - occupational health and safety (OHS)
- organisational policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- public relations and product promotion
- techniques for dealing with customers, including customers with specific needs.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • identifying needs and priorities of customers • distinguishing between different levels of customer satisfaction • treating customers with courtesy and respect • responding to and reporting on, customer feedback • knowledge of organisational policy and procedures for customer service.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of customer complaints • examples of documents relating to customer service standards and policies.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of reports on customer service delivery • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of customer service strategies.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Appropriate interpersonal skills</i> may include:</p>	<ul style="list-style-type: none"> • listening actively to what the customer is communicating • providing an opportunity for the customer to confirm their request • questioning to clarify and confirm customer needs • seeking feedback from the customer to confirm understanding of needs • summarising and paraphrasing to check understanding of customer message • using appropriate body language.
<p><i>Customers</i> may include:</p>	<ul style="list-style-type: none"> • corporate customers • individual members of the organisation • individual members of the public • internal or external • other agencies.
<p><i>Customer needs and expectations</i> may include:</p>	<ul style="list-style-type: none"> • accuracy of information • advice or general information • complaints • fairness/politeness • further information • making an appointment • prices/value • purchasing organisation's products and services • returning organisation's products and services • specific information.
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practice • anti-discrimination and related policy • defined resource parameters • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options • pricing and discount policies • quality and continuous improvement processes and

	<p>standards</p> <ul style="list-style-type: none"> • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services.
<i>Effective communication</i> may include:	<ul style="list-style-type: none"> • giving customers full attention • maintaining eye contact, except where eye contact may be culturally inappropriate • speaking clearly and concisely • using active listening techniques • using appropriate language and tone of voice • using clear written information/communication • using non-verbal communication e.g. body language, personal presentation (for face-to-face interactions) • using open and/or closed questions.
<i>Designated individuals</i> may include:	<ul style="list-style-type: none"> • colleagues • customers • line management • supervisor.
<i>Customer complaints</i> may include:	<ul style="list-style-type: none"> • administrative errors such as incorrect invoices or prices • customer satisfaction with service quality • damaged goods or goods not delivered • delivery errors • product not delivered on time • service errors • warehouse or store room errors such as incorrect product delivered.
<i>Specific needs</i> of customers may relate to:	<ul style="list-style-type: none"> • age • beliefs/values • culture • disability • gender • language • religious/spiritual observances.
<i>Opportunities</i> to promote and enhance services and products may include:	<ul style="list-style-type: none"> • extending time lines • packaging procedures • procedures for delivery of goods • returns policy • system for recording complaints • updating customer service charter.
<i>Verifiable evidence</i> may include:	<ul style="list-style-type: none"> • customer satisfaction questionnaires • audit documentation and reports

	<ul style="list-style-type: none">• quality assurance data• returned goods• lapsed customers• service calls• complaints.
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Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS401B Coordinate implementation of customer service strategies

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i>.</p> <p>Revised unit. Performance criteria amended so that the learner is not required to ‘incorporate evidence of customer satisfaction in decision to modify products or services’.</p> <p>Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p> <p>Replaces BSBCUS401A Coordinate implementation of customer service strategies</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to advise on, carry out and evaluate customer service strategies, including the design of improvement strategies based on feedback. Operators may have responsibility to provide guidance or to delegate aspects of these tasks to others.

Application of the Unit

This unit applies to individuals with a broad knowledge of customer service strategies who contribute well developed skills in addressing customer needs and problems.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

<p>1. Advise on customer service needs</p>	<p>1.1 Clarify and accurately assess <i>customer needs</i> using appropriate <i>communication techniques</i></p> <p>1.2 Diagnose problems matching service delivery to <i>customers</i> and develop options for improved service within <i>organisational requirements</i></p> <p>1.3 Provide relevant and constructive advice to promote the improvement of customer service delivery</p> <p>1.4 Use <i>business technology</i> and/or <i>online services</i> to structure and present information on customer service needs</p>
<p>2. Support implementation of customer service strategies</p>	<p>2.1 Ensure customer service strategies and opportunities are promoted to <i>designated individuals and groups</i></p> <p>2.2 Identify and allocate available budget resources to fulfil customer service objectives</p> <p>2.3 Promptly action <i>procedures to resolve customer difficulties</i> and <i>complaints</i> within organisational requirements</p> <p>2.4 Ensure that decisions to implement <i>strategies</i> are taken in consultation with designated individuals and groups</p>
<p>3. Evaluate and report on customer service</p>	<p>3.1 Review client satisfaction with service delivery using verifiable data in accordance with organisational requirements</p> <p>3.2 Identify and report changes necessary to maintain service standards to designated individuals and groups</p> <p>3.3 Prepare conclusions and recommendations from verifiable evidence and provide constructive advice on future directions of client service strategies</p> <p>3.4 Maintain systems, records and reporting procedures to compare changes in customer satisfaction</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to
 - communicate effectively with personnel and clients at all levels
 - articulate customer service strategies
- interpersonal skills to:
 - build relationships with customers
 - establish rapport
- literacy skills to:
 - prepare general information and papers
 - read a variety of texts
 - write formal and informal letters according to target audience
- planning skills to develop implementation schedules
- problem-solving skills to diagnose organisational problems relating to customer services
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - environmental issues
 - occupational health and safety (OHS)
- principles of customer service
- organisational business structure, products and services
- product and service standards and best practice models.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> identifying needs and priorities of the organisation in delivering services to customers responding to and reporting on customer feedback designing strategies to improve delivery of products and services knowledge of the principles of customer service.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to an actual workplace or simulated environment access to office equipment and resources examples of customer complaints, feedback and strategies.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate review of documentation reporting changes necessary to maintain service standards analysis of responses to case studies and scenarios demonstration of techniques observation of presentations oral or written questioning to assess knowledge of customer service techniques and strategies review of systems, records and reporting procedures to compare changes in customer satisfaction.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customer needs may relate to:	<ul style="list-style-type: none"> • accuracy of information • advice or general information • complaints • fairness/politeness • further information • making an appointment • prices/value • purchasing organisation's products and services • returning organisation's products and services • specific information.
Communication techniques may include:	<ul style="list-style-type: none"> • analysing customer satisfaction surveys • analysing quality assurance data • conducting interviews • consultation methods, techniques and protocols • making recommendations • obtaining management decisions • questioning • seeking feedback to confirm understanding • summarising and paraphrasing.
Customers may include:	<ul style="list-style-type: none"> • corporate customers • individual members of the organisation • individual members of the public • internal or external • other agencies.
Organisational requirements may include:	<ul style="list-style-type: none"> • access and equity principles and practice • anti-discrimination and related policy • confidentiality and security requirements • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options

	<ul style="list-style-type: none"> • pricing and discount policies • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services.
<i>Business technology</i> may include:	<ul style="list-style-type: none"> • answering machine • binder • computer • fax machine • photocopier • printer • shredder • telephone.
<i>Online services</i> may include:	<ul style="list-style-type: none"> • access to product database by customers online • access to purchase, delivery and account records • contact centre • online ordering • online payments • online registration • quick/reasonable response • two-way communication online.
<i>Designated individuals and groups</i> may include:	<ul style="list-style-type: none"> • colleagues • committee • customers • external organisation • line management • supervisor.
<i>Procedures to resolve customer difficulties</i> may include:	<ul style="list-style-type: none"> • external agencies (e.g. Ombudsman) • item replacement • referrals to supervisor • refund of monies • review of products or services • using conflict management techniques.

<p><i>Customer complaints</i> may include:</p>	<ul style="list-style-type: none"> • administrative errors such as incorrect invoices or prices • customer satisfaction with service quality • damaged goods or goods not delivered • delivery errors • products not delivered on time • service errors • specific e-business problems and issues: <ul style="list-style-type: none"> • difficulty accessing services • inactive links • not appreciating differing hardware and software • services not available • supply errors such as incorrect product delivered • time taken to access services • unfriendly website design • website faults • warehouse or store room errors such as incorrect product delivered.
<p>Customer service <i>strategies</i> may include:</p>	<ul style="list-style-type: none"> • courtesy/politeness • delivery times • merchandise characteristics • price offers • product/refund guarantees • product/service availability.

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS501C Manage quality customer service

Modification History

Release	Comments
Release 1	<p>New release of this Qualification released with <i>version 6 of BSB07 Business Services Training Package</i>.</p> <p>Revised unit. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.

Operators may have staff involved in delivering customer service and are responsible for the quality of their work. In many instances the work will occur within the organisation's policies and procedures framework. At this level, the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies, will be required.

Application of the Unit

Many managers are involved in ensuring that products and services are delivered and maintained to standards agreed by the organisation.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Plan to meet internal and external customer requirements	<p>1.1 Investigate, identify, assess, and include the needs of customers in planning processes</p> <p>1.2 Ensure plans achieve the quality, time and cost specifications agreed with customers</p>
2. Ensure delivery of quality products and services	<p>2.1 Deliver products and services to customer specifications within organisation's business plan</p> <p>2.2 Monitor team performance to consistently meet the organisation's quality and delivery standards</p> <p>2.3 Assist colleagues to overcome difficulty in meeting customer service standards</p>
3. Monitor, adjust and review customer service	<p>3.1 Develop and use strategies to monitor progress in achieving product and/or service targets and standards</p> <p>3.2 Develop and use strategies to obtain customer feedback to improve the provision of products and services</p> <p>3.3. Develop, procure and use resources effectively to provide quality products and services to customers</p> <p>3.4 Make decisions to overcome problems and to adapt customer services, products and service delivery in consultation with appropriate individuals and groups</p> <p>3.5 Manage records, reports and recommendations within the organisation's systems and processes</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify trends and positions of products and services
- communication skills to:
 - coach and mentor staff and colleagues
 - monitor and advise on customer service strategies
- literacy skills to:
 - edit and proofread texts to ensure clarity of meaning and accuracy of grammar and punctuation
 - prepare general information and papers according to target audience
 - read and understand a variety of texts
- problem-solving skills to:
 - deal with customer enquiries or complaints
 - deal with complex and non-routine difficulties
- technology skills to select and use technology appropriate to a task
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - Australian consumer law
 - ethical principles
 - codes of practice
 - privacy laws
 - financial legislation
 - occupational health and safety (OHS)
- organisational policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- public relations and product promotion
- techniques for dealing with customers, including customers with specific needs
- techniques for solving complaints including the principles and techniques involved in the management and organisation of:
 - customer behaviour
 - customer needs research
 - customer relations
 - ongoing product and/or service quality
 - problem identification and resolution

- quality customer service delivery
- record keeping and management methods
- strategies for monitoring, managing and introducing ways to improve customer service relationships
- strategies to obtain customer feedback.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • plans, policies or procedures for delivering quality customer service • demonstrated techniques in solving complex customer complaints and system problems that lead to poor customer service • knowledge of techniques for solving complaints.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment of written reports • demonstration of techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • evaluation of leadership, supervision, coaching and mentoring used to assist colleagues to overcome difficulty in meeting customer service standards • review of strategies developed and used to monitor progress in achieving product and/or service targets and standards • review of records, reports and recommendations about managing customer service.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customers may be:	<ul style="list-style-type: none"> • Board members • clients, purchasers of services • co-workers, peers and fellow frontline managers • members of the general public who make contact with the organisation, such as prospective purchasers of services • potential funding bodies • supervisors • suppliers of goods and services and contractors providing goods and services.
Quality may refer to:	<ul style="list-style-type: none"> • characteristics of a product, system, service or process that meet the requirements of customers and interested parties.
Products and services may include:	<ul style="list-style-type: none"> • either products or services • goods • ideas • infrastructure • private or public sets of benefits.
Strategies may refer to:	<ul style="list-style-type: none"> • databases and other controls to record and compare data over time • electronic feedback mechanisms using intranet, internet and email • feedback forms and other devices to enable communication from customers • long-term or short-term plans for monitoring achievement and evaluating effectiveness • policies and procedures • questionnaires, survey and interviews • training and development activities.
Resources may include:	<ul style="list-style-type: none"> • buildings/facilities • equipment • finance • information • people • power/energy

	<ul style="list-style-type: none">• technology• time.
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Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBDES302A Explore and apply the creative design process to 2D forms

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to explore and creatively apply the design process to the development of 2 dimensional (2D) forms.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who apply the creative design process to the development of 2-dimensional forms. The unit underpins many other specialised design units.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Source information on 2-dimensional design	1.1. Identify and access relevant <i>sources of information</i> on 2-dimensional design 1.2. Evaluate and collate information to build a knowledge of 2-dimensional design
2. Explore the creative design process for 2-dimensional forms	2.1. Use <i>creative thinking techniques</i> to generate a range of ideas and options 2.2. Use <i>experimentation</i> to explore and challenge a range of different ideas 2.3. Challenge assumptions, reflect on ideas and refine approaches 2.4. Consciously change perspective, and evaluate ideas and situations in new ways
3. Communicate concepts or ideas through application of design processes to 2-dimensional forms	3.1. Investigate and reflect on how a particular <i>concept or idea</i> might be communicated in a 2-dimensional form 3.2. Select <i>materials, tools and equipment</i> relevant to the realisation of the concept or idea 3.3. Apply a creative design process to produce a range of 2-dimensional concept realisations 3.4. Reflect on own application of design process and success in communicating the concept or idea 3.5. Seek and obtain feedback from others about the 2-dimensional form and its success in communicating the concept or idea 3.6. Present and store <i>concept realisations or samples</i> in a format which takes account of the need for professional presentation and potential value for future work

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to explain ideas and to have discussions about design concepts with others
- literacy skills to read and interpret information about 2-dimensional design
- visual literacy skills to make judgements about the application of the design process to 2-dimensional forms.

Required knowledge

- copyright, moral rights, intellectual property issues and legislation, and their impact on aspects of design
- creative thinking techniques that can be used as part of the design process
- elements and principles of design as applied to 2-dimensional forms
- materials, tools and equipment required for the design of 2-dimensional forms in the relevant work context
- notion of individual interpretation and choice within the design process
- particular challenges and issues in the design of 2-dimensional forms.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • production of a range of samples or concept realisations which show the creative application of processes to 2-dimensional forms • knowledge of the design process as it applies to 2-dimensional work.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to the materials resources and equipment needed to apply design processes to 2-dimensional forms.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • evaluation of samples or concept realisations produced by the candidate and interrogation of the creative process used • oral or written questioning to assess knowledge of 2-dimensional design.
Guidance information for assessment	The design process does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Sources of information may include:

- anecdotal sources, personal observation
- art and design work
- books and magazines
- natural and manufactured forms, objects and/or structures
- optics, including single and multiple vanishing points
- scientific texts
- web-based resources

Creative thinking techniques may include:

- brainstorming:
 - bulletin board
 - buzz session
 - computer-aided
 - sequencing
 - stop and go
- daydreaming and mental wandering
- Edward de Bono's six thinking hats
- ego alter or heroes
- graphic organisers:
 - concept fans
 - visual maps
 - webbing
- lateral thinking games
- making associations
- mind mapping
- morphological analysis
- storytelling
- sub-culture surfing
- trigger words
- use of metaphors and analogies
- vision circles
- visualisation

RANGE STATEMENT	
	<ul style="list-style-type: none"> • wishful thinking • word salads
<i>Experimentation</i> may involve consideration of:	<ul style="list-style-type: none"> • contrast • direction • exploring tonal range to produce illusion of 3-dimensionality • harmony • linear perspective • mark making • modelling volume through marks and tone • pattern • positive and negative shape • proportion • rhythm • shape • size • texture • tone
<i>Concept or idea</i> to be communicated may relate to a range of activities such as:	<ul style="list-style-type: none"> • advertising and promotion • artistic works • exhibitions or events • fashion designs • interactive digital media products • interior designs • sign making
<i>Materials, tools and equipment</i> may include:	<ul style="list-style-type: none"> • cardboard • air brushes • cutting blades • digital equipment • found materials • glue • inks and washes • markers • measuring tools • pencils • pens and nibs • range of brushes • range of papers • receptacles • relevant and current software

RANGE STATEMENT	
	<ul style="list-style-type: none"> • rulers • scissors • spatulas • sponges • spray guns
<i>Concept realisations or samples</i> may be:	<ul style="list-style-type: none"> • digital output • drawn, painted, printed, collaged • photographs

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Design - Design Process
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Co-requisite units

Co-requisite units		

BSBDES601A Manage design realisation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage the process of taking a design from concept to final realisation or production.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals working in any industry context or design discipline who take responsibility for turning design concept into reality - a product or service of value to the end user. This person could be an individual designer-maker or a designer working as part of a larger design/production team.</p> <p>The unit has a strong focus on planning, implementation and monitoring skills, combined with a sound knowledge of design and production issues and challenges in a given context.</p> <p>In practice this unit supports and is supported by other units describing the specialist skills and knowledge required by specific design disciplines.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan realisation of the design	1.1. Collect, analyse and maintain <i>relevant information on the design</i> 1.2. Discuss and agree on <i>standards of work and monitoring requirements</i> with <i>appropriate stakeholders</i> 1.3. Develop clear plan and schedule for design realisation, including key roles and responsibilities linked to time lines and budget
2. Implement and monitor realisation of the design	2.1. Organise and/or allocate <i>resources</i> to achieve the realisation of design within required standards, timeframes and budget 2.2. Liaise with others involved in design realisation to ensure obligations and quality standards are met within time, budget and technical resources 2.3. Maintain accurate, relevant and complete <i>documentation</i> in accordance with agreed standards 2.4. Monitor process to ensure integrity of design is maintained at all times, including through the process of challenging and interrogating own design work 2.5. Promptly identify <i>difficulties or problems</i> that arise in relation to realisation of the design and take action to rectify the situation
3. Liaise and negotiate with stakeholders	3.1. Establish and maintain appropriate <i>communication channels</i> with relevant stakeholders 3.2. Pro-actively seek and provide information to facilitate effective design realisation 3.3. Adhere to agreed terms and conditions or negotiate appropriate changes in light of changed circumstances 3.4. Negotiate and agree on revisions with relevant parties in a professional manner, to enhance quality of outcome
4. Complete design process	4.1. Finalise design outcomes in accordance with terms and conditions 4.2. Seek feedback from key stakeholders on finished design and make final adjustments as agreed 4.3. Evaluate completed design in relation to own work and overall process, to inform future practice

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and negotiation skills to lead and participate in effective client/principal, stakeholder and project team liaison during design realisation
- creative thinking skills to generate new or adapted ideas in response to realisation challenges
- literacy skills to research and evaluate a wide range of source materials on design and to complete relevant design documentation
- numeracy skills to manage budgets
- planning and organisational skills to coordinate and lead potentially complex processes involving a range of interrelated factors and challenges
- problem-solving and decision making skills to develop and implement solutions to unpredictable problems.

Required knowledge

- copyright, moral rights, intellectual property issues and legislation that impact on design work in the relevant industry context at a managerial level
- occupational health and safety requirements relevant to the particular work context/design discipline
- production/realisation processes as they apply to designs in a particular industry context or design discipline including materials, tools, equipment and processes
- quality assurance for design concept realisation applicable to the specific industry context/design discipline.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • planning and implementation of design realisation so that finished product or service meets the requirements of design brief • effective communication and negotiation skills in relation to working with others for design realisation • knowledge of the design process in the specific industry context/design discipline.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to resources, tools, materials and equipment for realisation of a design in specific context • access to a design concept that the candidate can take to realisation stage • interaction with and involvement of others to reflect the collaborative nature of the unit and the communication and negotiation skills required.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • evaluation of finished products or services where the candidate has managed the realisation process • evaluation of progress reports or completion reports prepared by the candidate • evaluation of candidate reports on the realisation process highlighting different management techniques used, challenges in the process and how these were addressed.
Guidance information for assessment	<p>The design process does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

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| | <ul style="list-style-type: none">• any specialised design unit. |
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Relevant information on the design</i> may include:</p>	<ul style="list-style-type: none"> • artwork • brief • checklists • financial data • models • production data • prototypes • specifications • technical data • visual diagrams • working drawings
<p><i>Standards of work and monitoring requirements</i> may relate to:</p>	<ul style="list-style-type: none"> • budget targets • creative issues • legal issues • reporting requirements • technical quality • timeframes
<p><i>Appropriate stakeholders</i> may include:</p>	<ul style="list-style-type: none"> • client • community • others on whom the design will impact, for example technical or production personnel • others working on the design realisation process • supervisor/manager
<p><i>Resources</i> may include:</p>	<ul style="list-style-type: none"> • financial • human • physical
<p><i>Documentation</i> to be maintained may include:</p>	<ul style="list-style-type: none"> • digital records and presentations • financial reports • models • photographs • progress reports

RANGE STATEMENT	
	<ul style="list-style-type: none"> • prototypes • records of work • working drawings
<i>Difficulties or problems</i> may relate to:	<ul style="list-style-type: none"> • budgetary overruns • conceptual issues • legal issues • scheduling problems • technical quality
<i>Communication channels</i> may include:	<ul style="list-style-type: none"> • electronic updates • inspections • project meetings • telephone discussions

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Design - Design Process
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Co-requisite units

Co-requisite units		

BSBFLM309C Support continuous improvement systems and processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcomes required to support the organisation's continuous improvement systems and processes. Particular emphasis is on actively encouraging the team to participate in the process, on monitoring and reporting on specified outcomes and on supporting opportunities for further improvements. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>This unit replaces BSBFLM309A Support continuous improvement systems and processes.</p> <p>Frontline managers have an active role in supporting continuous improvement processes in achieving the organisation's objectives. Their position, closely associated with the creation and delivery of products and services, means that they have an important responsibility in influencing the ongoing development of the organisation.</p> <p>At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non-routine activities that require some discretion and judgement.</p> <p>Consider co-assessment with BSBFLM305C Support operational plan, BSBFLM312C Contribute to team effectiveness, BSBCUS301A Deliver and monitor a service to customers, BSBCMN311B Maintain workplace safety, and BSBFLM311C Support a workplace learning environment.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to continuous improvement systems and processes	<p>1.1. Actively encourage and support team members to participate in decision making processes and to assume responsibility and exercise initiative</p> <p>1.2. <i>Communicate</i> the organisation's <i>continuous improvement processes</i> to individuals and teams</p> <p>1.3. Effectively utilise <i>mentoring and coaching</i> to ensure that individuals/teams are able to support the organisation's continuous improvement processes</p>
2. Monitor and report on specified outcomes	<p>2.1. Utilise the organisation's <i>systems</i> and <i>technology</i> to monitor team progress and to identify ways in which planning and operations could be improved</p> <p>2.2. Apply continuous improvement techniques and processes to improve <i>customer service</i></p>
3. Support opportunities for further improvement	<p>3.1. Communicate <i>agreed recommendations</i> for improvements in achieving the business plan to team members</p> <p>3.2. Document and use work performance to identify opportunities for further improvement</p> <p>3.3. Maintain records, reports and recommendations for improvement within the organisation's systems and processes</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- functional literacy skills to access and use workplace information
- research, analysis, interpretation and reporting skills
- monitoring and evaluation skills
- communication skills to:
 - gain the commitment of individuals and teams to continuous improvement
 - deal with people openly and fairly
 - use consultation skills effectively
- skills to consolidate opportunities for improvement
- coaching and mentoring skills to provide support to colleagues

Required knowledge

- legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- principles and techniques of:
 - continuous improvement systems and processes
 - benchmarking
 - best practice
- benefits of continuous improvement
- quality approaches which the organisation may implement
- methods that can be used in continuous improvement
- barriers to continuous improvement
- recording, reporting and recommendation processes to facilitate continuous improvement applied within the organisation

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • examples of actions taken by the candidate to support continuous improvement including: • use of work performance to identify improvement • adjusted plans to reflect changes • effective communication to all stakeholders • use of technology to monitor operational progress • application of suitable recordkeeping processes.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access by the learner and trainer to appropriate documentation and resources normally used in the workplace • that this unit is assessed in the workplace or in a closely simulated work environment.
Method of assessment	<p>A range of assessment methods should be used to assess skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • Direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • Review of records supporting the organisation's continuous improvement systems and processes, such as: <ul style="list-style-type: none"> • contributions to organisational policies and procedures • contributions to procedures and policies for dealing with continuous improvement processes, and related codes of conduct • actions taken to address information collection, retrieval and use in the workplace • actions taken to address issues and problems within work team • actions taken to address methods of reporting

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	<p>information</p> <ul style="list-style-type: none"> • learning and development plans for team members • materials developed for coaching, mentoring and training • induction programs developed and/or delivered • actions taken to address internal and external information management issues • reviews of people management • advice and input into management decisions related to continuous improvement • records of people management lessons learned.
Guidance information for assessment	<p>This unit should be assessed with other frontline management units taken as part of this qualification, as applicable to the candidate's leadership role in a work team, and as part of a holistic assessment activity.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislation, codes and national standards relevant to the workplace may include:	<ul style="list-style-type: none"> • award and enterprise agreements and relevant industrial instruments • relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety (OHS) and environmental issues, equal opportunity, industrial relations and anti-discrimination • relevant industry codes of practice.
<i>OHS considerations</i> may include:	<ul style="list-style-type: none"> • provision of information about OHS legislative requirements and guidelines, and the organisation's OHS policies, procedures and programs • participation in the regular update of OHS systems and procedures • implementation of the continuous improvement processes of the OHS management system • changes to work practices, procedures and the working environment which impact on OHS • organisation's responsibilities to customers and suppliers.
Methods used to <i>communicate</i> with individuals and team may include:	<ul style="list-style-type: none"> • verbal, written or electronic communications • on-the-job mentoring and coaching.
<i>Continuous improvement processes</i> may include:	<ul style="list-style-type: none"> • policies and procedures which allow an organisation to systematically review and improve the quality of its products, services and procedures • cyclical audits and reviews of workplace, team and individual performance • seeking and considering feedback from a range of stakeholders • modifications and improvements to systems,

RANGE STATEMENT	
	<p>processes, services and products</p> <ul style="list-style-type: none"> • evaluations and monitoring of effectiveness.
<i>Mentoring and coaching</i> may refer to:	<ul style="list-style-type: none"> • teaching another member of the team, usually focusing on a specific work task or skill • providing feedback, support and encouragement on a range of matters • providing assistance with problem solving.
<i>Systems</i> may include:	<ul style="list-style-type: none"> • organisation policies and procedures • web based communication devices • attendance at forums, meetings • newsletters and reports.
<i>Technology</i> may include:	<ul style="list-style-type: none"> • computerised systems and software such as databases, project management and word-processing • telecommunications devices • any other technology used to carry out work roles and responsibilities.
<i>Customer service</i> may be:	<ul style="list-style-type: none"> • internal or external, to existing or new clients • identifying needs and priorities in delivering a service to customers • understanding of different levels of customer satisfaction.
<i>Agreed recommendations</i> may be:	<ul style="list-style-type: none"> • identified improvements arising from the continuous improvement process • determined in accordance with organisational policies and procedures

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and leadership - Frontline Management
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Co-requisite units

Co-requisite units		

BSBINN201A Contribute to workplace innovation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to make a pro active and positive contribution to workplace innovation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals working in any industry or community context, in both small and large organisations. They take a pro active approach to identifying, suggesting and developing ideas about better ways of doing things at a practical operational level in a specific area of activity. While the individual's overall work is undertaken with some supervision and guidance, the nature of this process requires the application of discretion, judgement and effective interpersonal skills.</p> <p>The unit assumes that there is wider organisational and management support for innovation and for individuals at all levels to contribute to the innovation process.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify opportunities to do things better	1.1. Be aware of <i>own role</i> in workplace innovation 1.2. Pro-actively identify <i>opportunities for improvement</i> in own area of work 1.3. Gather and review <i>information which may be relevant to ideas</i> and which might assist in gaining support for ideas
2. Discuss and develop ideas with others	2.1. Identify <i>people who could provide input</i> into ideas for improvements 2.2. Select the <i>best way of approaching people</i> to begin sharing ideas 2.3. Seek <i>feedback</i> on improvement of ideas, and discuss and develop <i>options and possible variations</i> 2.4. Review and select ideas for follow-up based on feedback and further review
3. Address the practicalities of change	3.1. Take action to implement <i>routine changes</i> in consultation with others and within scope of own responsibility 3.2. Identify and articulate <i>issues and practical processes</i> for implementing proposed ideas 3.3. Present ideas and practical suggestions to the appropriate people about how improvements could be made

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise with other team members, to discuss a range of ideas and to be open to different opinions
- comprehension skills to review and interpret information from a wide range of sources
- organisational skills to articulate practical processes and actions for change
- problem-solving skills to identify and anticipate problems at a practical operational level and to develop possible solutions.

Required knowledge

- role and impact of innovation in the workplace at a practical operational level and the 'bigger picture' for innovation in the relevant work or community context
- role of individuals in suggesting and making improvements and the importance of pro-active involvement
- positive impacts and the challenges of change and innovation
- types of changes that can occur as a result of effective individual participation
- typical reasons why suggested improvements or innovations may not be implemented, including operational and management constraints
- ways in which improvements and change can be suggested to maximise likelihood of support.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • generation of practical ideas in response to a specific workplace situation • effective and open interaction with others to discuss and develop ideas • knowledge and understanding of the role of individuals in contributing to workplace innovation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • interaction with others to reflect the collaborative nature of the improvement/innovation process.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • direct observation of the candidate participating in brainstorming, discussions and other collaborative activities to develop ideas • evaluation of candidate's ability to generate ideas to address a range of practical operational situations • evaluation of feedback from other people involved in the collaborative process about the candidate's communication approaches and abilities • oral or written questioning to assess knowledge of the role of innovation, the role of individuals in the innovation process and the types of techniques that can be used.
Guidance information for assessment	Innovation does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is highly recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Own role</i> may relate to:</p>	<ul style="list-style-type: none"> • current organisational practice in relation to new ideas • knowledge of ways to suggest new ideas • scope of individual discretion and freedom in relation to new ideas • who needs to be involved in the process
<p><i>Opportunities for improvement</i> may relate to:</p>	<ul style="list-style-type: none"> • changes in the physical work environment • different storage or maintenance procedures • different ways of communicating within the team • introduction of new technology • job role changes • new customer base • new work practices or services • staffing changes • work processes and procedures
<p><i>Information which may be relevant to ideas</i> may include:</p>	<ul style="list-style-type: none"> • examples of similar approaches in other contexts or organisations • media articles about similar ideas • notes about how the idea could improve efficiency or service levels • pricing information
<p><i>People who could provide input</i> may include those who might:</p>	<ul style="list-style-type: none"> • challenge and test the ideas • have supervisory or management responsibility • promote the ideas to others • provide technical knowledge • resource the ideas going forward • review any budgetary implications • work in the same area
<p><i>Best way of approaching people</i> may be influenced by:</p>	<ul style="list-style-type: none"> • degree of formality required • location of people (e.g. may not be on-site) • need for any supporting documentation

RANGE STATEMENT	
	<ul style="list-style-type: none"> • time pressures and priorities
<i>Feedback</i> could be gained in a range of ways and may include:	<ul style="list-style-type: none"> • asking questions • talking to colleagues or supervisors • using brainstorming techniques • using 'what if' scenarios
<i>Options and possible variations</i> development may occur by:	<ul style="list-style-type: none"> • considering resources needed • considering time required • taking on board ideas from other people • thinking through all aspects of the ideas • whole new concepts that come out of discussions
<i>Routine changes</i> may include:	<ul style="list-style-type: none"> • adjustments to work practices with minimal impact on others or within a small team • changes that do not require management approvals • changes that have the support of management and for which authority is given for immediate action to be taken
<i>Issues and practical processes</i> may relate to:	<ul style="list-style-type: none"> • any approvals required • cost of implementation • internal politics • need for a planned communication approach (internal or external) • personalities and philosophies of others in the workplace • relationship of the idea to organisation priorities

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Creativity and Innovation - Innovation
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Co-requisite units

Co-requisite units		

BSBINN301A Promote innovation in a team environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to be an effective and pro active member of an innovative team.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies individuals who play a pro active role in demonstrating, encouraging or supporting innovation in a team environment. The individual may be a team participant or a team leader.</p> <p>The team may 'make itself' or be constructed by others. It may have core members and members who participate at certain times or for particular purposes. It may be permanent or temporary, or come together at different times to work on specific projects.</p> <p>The team could consist of a team of contractors/freelancers, permanent staff, clients and service providers, or any combination of these groups. It may operate within an organisation or across several organisations - or simply across a group of individuals.</p> <p>The key focus of the unit is on what makes for an innovative team, what keeps it working well, how the structure of work can make a difference and what skills and knowledge are needed to maximise opportunities for innovation. Where a greater focus on team leadership is required this unit should be combined with units such as BSBLED401A Develop teams and individuals.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Create opportunities to maximise innovation within the team	1.1. Evaluate and reflect on <i>what the team needs and wants to achieve</i> 1.2. Check out <i>information about current or potential team members' work</i> in the context of developing a more innovative team 1.3. Bring people into the team or make suggestions for team members based on what needs to be achieved and the potential for cross-fertilising ideas 1.4. Acknowledge, respect and discuss the <i>different ways that different people may contribute</i> to building or enhancing the team
2. Organise and agree effective ways of working	2.1. Jointly establish <i>ground rules</i> for how the team will operate 2.2. Agree and communicate responsibilities in ways that encourage and reinforce <i>team-based innovation</i> 2.3. Agree and share tasks and activities to ensure the best use of skills and abilities within the team 2.4. Plan and schedule activities to allow time for thinking, challenging and collaboration 2.5. Establish personal reward and stimulation as an integral part of the team's way of working
3. Support and guide colleagues	3.1. Model <i>behaviour that supports innovation</i> 3.2. Seek <i>external stimuli and ideas</i> to feed into team activities 3.3. Pro-actively share information, knowledge and experiences with other team members 3.4. Challenge and test ideas within the team in a positive and collaborative way 3.5. Pro-actively discuss and explore ideas with other team members on an ongoing basis
4. Reflect on how the team is working	4.1. De-brief and reflect on activities and on opportunities for improvement and innovation 4.2. Gather and use feedback from within and outside the team to generate discussion and debate 4.3. Discuss the <i>challenges of being innovative</i> in a constructive and open way 4.4. Take ideas for improvement, build them into future activities and communicate key issues to relevant colleagues 4.5. Identify, promote and celebrate successes and

ELEMENT	PERFORMANCE CRITERIA
	examples of successful innovation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to work collaboratively as part of a team, to provide guidance and support to others, and to participate in open and constructive discussions
- creative thinking skills to generate, explore, test and challenge ideas
- learning skills to stretch boundaries of own knowledge and skills
- literacy skills to analyse a wide range of information from varied sources
- planning and organisational skills to participate in the effective allocation of work in a team context
- problem-solving skills to work constructively to overcome issues and challenges of both a practical and conceptual nature and to make ideas become realities
- self-management skills to take a pro-active team role and to reflect on own performance in modelling and encouraging behaviour that supports innovation.

Required knowledge

- barriers to innovation that can occur within a team and broader barriers that sometimes hinder innovation
- broad concepts of innovation including what innovation is, different types of innovation and the benefits of innovation
- characteristics of teams that are more likely to be innovative and characteristics of broader environments that support and encourage innovation
- different roles that people may play within a team, how this impacts on the way a team works and what it might achieve
- group dynamics in a team.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • active participation in a team where the team takes a pro-active and considered approach to innovation and innovative practice • collaborative and open communication within the team • knowledge and understanding of the internal and external factors that contribute to a team becoming and remaining innovative.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • demonstration of skills as part of a team.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • direct observation of team interactions • evaluation of reports by the candidate or the team (could be oral or written) discussing the ideas, challenges and opportunities associated with teams, and how they can be more innovative • evaluation of feedback from other people in the team about the candidate's communication approaches and abilities • oral or written questioning to assess knowledge of the characteristics of innovative teams, innovation concepts more broadly and the ways in which innovation can be encouraged • review of jointly established 'groundrules' for how the team will operate.
Guidance information for assessment	<p>Innovation does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is highly recommended.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>What the team needs and wants to achieve</i> may relate to:</p>	<ul style="list-style-type: none"> • addressing particular customer feedback • conceiving and implementing a particular project • developing new services or products • generating ongoing ideas within the work unit • improving budgetary performance • improving or changing work conditions • new ideas that impact beyond the workplace (e.g. that have a broader social or community impact)
<p><i>Information about current or potential team members' work</i> may relate to:</p>	<ul style="list-style-type: none"> • interests • lifestyle preferences • past jobs • technical strengths • work preferences • working styles
<p><i>Different ways that different people may contribute</i> may relate to individual strengths around:</p>	<ul style="list-style-type: none"> • creating positive energy within the team • fundamental literacy strengths (e.g. particularly strong in visual literacy, written or spoken communication) • generating ideas • networks or spheres of influence • particular ways of thinking • powers of persuasion • problem-solving capacities • specific technical skills or knowledge
<p><i>Ground rules</i> may relate to:</p>	<ul style="list-style-type: none"> • boundaries or lack of boundaries for team activities and ideas • confidentiality • copyright, moral rights or intellectual property • regularity of communication • key roles and responsibilities • time lines

RANGE STATEMENT	
	<ul style="list-style-type: none"> ways of communicating
<i>Team-based innovation</i> may be encouraged through:	<ul style="list-style-type: none"> accessing training and learning opportunities enough but not too much guidance and structure equitable sharing of workload follow-through with ideas supportive communication
<i>Behaviour that supports innovation</i> may include being:	<ul style="list-style-type: none"> collaborative equitable fair fun hardworking reflective responsible sympathetic
<i>External stimuli and ideas</i> might be from:	<ul style="list-style-type: none"> Australia or overseas colleagues outside of the team family and friends internet journals networks or technical experts other organisations
<i>Challenges of being innovative</i> may relate to:	<ul style="list-style-type: none"> budgetary or other resource constraints competing priorities organisational culture problems with breaking old patterns of behaviour or thinking time pressures

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Creativity and Innovation - Innovation
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Co-requisite units

Co-requisite units		

BSBIPR601A Develop and implement strategies for intellectual property management

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to obtain a strategic advantage from developing and implementing strategies for the management of intellectual property. It covers the evaluation of approaches to the management of intellectual property, and focuses on establishing, implementing, evaluating and monitoring an organisation's intellectual property strategy.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to directors or managers who take an active role in recognising and securing intangible assets which contribute to the organisation's profitability, productivity and market leadership. These managers and coordinators may work in a range of contexts and may have responsibility for managing people, systems or processes.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate approaches to the management of intellectual property	1.1. Analyse strategic and operational plans to determine intellectual property requirements 1.2. Identify sources of information and advice regarding approaches to the best practice management of intellectual property 1.3. Determine the implications and potential strategic advantage from protection of intellectual property 1.4. Determine the implications and potential strategic advantage from adopting a collaborative approach to intellectual property 1.5. Determine the implications and potential strategic advantage from adopting an open source approach to intellectual property
2. Establish a strategy for managing intellectual property	2.1. Develop an intellectual property strategy for management and use of own and others' intellectual property in line with the organisation's strategic goals or plans 2.2. Examine requirements and options for commercialisation or effective use of intellectual property 2.3. Establish required documentation for the management of the intellectual property strategy 2.4. Develop strategies for addressing intellectual property infringement 2.5. Ensure intellectual property strategy complies with legislative requirements and organisational policies 2.6. Communicate intellectual property strategy to key stakeholders within the organisation and externally
3. Evaluate proposed intellectual property strategy	3.1. Obtain legal and other professional advice regarding the proposed intellectual property management strategy 3.2. Identify and evaluate the benefits from the proposed intellectual property management strategy 3.3. Identify and evaluate the disadvantages, costs and risks of the proposed intellectual property management strategy 3.4. Adjust strategy according to legal advice and evaluation 3.5. Establish, document and present the business case for adopting the proposed intellectual property management strategy to senior management,

ELEMENT	PERFORMANCE CRITERIA
	directors and other key stakeholders
4. Implement and monitor the intellectual property management strategy	<p>4.1. Work with others to ensure the <i>implementation</i> of the strategy</p> <p>4.2. <i>Monitor</i> and evaluate the strategy and its implementation and report to senior management, directors and other key stakeholders</p> <p>4.3. Make changes to strategy and its implementation as required</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to question, clarify and report on proposed strategy and develop any required documentation, such as licence agreements
- financial and analytical skills to prepare a business case for the proposed strategy
- information technology and research skills to find and interpret relevant information about intellectual property
- conceptual skills to design an organisational strategy
- demonstration of characteristics of responsible business practice and ethical behaviour

Required knowledge

- types of intellectual property as they relate to the organisation
- alternative strategies for the organisation's intellectual property
- relevant legislation and regulations relating to the organisation's intellectual property rights
- potential sources of information and advice about intellectual property

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • identification of intellectual property rights appropriate to the types of intellectual property within the organisation and the relevant legislation • establishment of strategies for the management of intellectual property • feasibility study outlining alternative strategies, with risk analysis and cost-benefit analysis of each alternative • recommendations for and implementation of commercialisation of intellectual property
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant legislation and regulations as they relate to intellectual property • access to appropriate computer resources for online search and report preparation • access to sources of information and advice
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of intellectual property strategy alternatives • direct questioning combined with review of portfolio of evidence and third party workplace reports of on-the-job performance by the candidate, to demonstrate the establishment of strategies to manage an organisation's intellectual property • presentation to appropriate personnel on the commercialisation of a range of intellectual property within the organisation, or the chosen intellectual property strategy • oral or written questioning about relevant legislation as it relates to the organisation's intellectual property strategy
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none">• other management units from BSB07

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Intellectual property</i> refers to:</p>	<ul style="list-style-type: none"> • the output of the mind or intellect rather than tangible objects, including: <ul style="list-style-type: none"> • copyright • trade marks • patents • designs • plant breeder's rights • circuit layout rights • confidential information/trade secrets
<p><i>Sources of information and advice</i> may include:</p>	<ul style="list-style-type: none"> • IP Australia • Attorney-General's Department • Australian Copyright Council • State and Commonwealth government agencies • lawyers specialising in intellectual property • trade mark attorneys and patent attorneys • St James Ethics Centre • accountants • business advisors • marketing consultants • branding consultants • copyright collecting societies, eg CAL, PPCA, MIPI, APRA, AMCOS • publications • websites, Internet • databases, e.g. local and international trade mark databases
<p><i>Strategic advantage</i> may refer to:</p>	<ul style="list-style-type: none"> • the relative standing against competitors in the global market place • the strategic benefit of the organisation's clients or stakeholders
<p><i>Protection</i> may include:</p>	<ul style="list-style-type: none"> • protection through a range of legislation, including:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Copyright Act 1968 • Designs Act 2003 • Patents Act 1990 • Trade Marks Act 1995 • Trade Practices Act 1975 and State/Territory free trading legislation • business names legislation
<i>Collaborative approach</i> may include working with:	<ul style="list-style-type: none"> • specific partners • the industry, both nationally and internationally
<i>Open source</i> refers to:	<ul style="list-style-type: none"> • the creative practice of appropriation and free sharing of found and created content
<i>Intellectual property strategy</i> may include:	<ul style="list-style-type: none"> • an approach of: <ul style="list-style-type: none"> • protection • collaboration • open source • mix of the above • developing a global intellectual property strategy • links to: <ul style="list-style-type: none"> • risk management strategy • business and marketing plans • organisational training needs
<i>Commercialisation</i> may include:	<ul style="list-style-type: none"> • utilising intellectual property with the aim of producing financial or other commercial gain, and/or public benefit, including: <ul style="list-style-type: none"> • adapting • applying • assigning • copying • developing • licensing • making • publishing • selling • using
<i>Documentation</i> may include:	<ul style="list-style-type: none"> • documented portfolio of intangible assets • intellectual property agreements or licences register

RANGE STATEMENT	
	<ul style="list-style-type: none"> • policies and procedures
<i>Strategies for addressing intellectual property infringement</i> may involve:	<ul style="list-style-type: none"> • identifying threats to the organisation from intellectual property infringement • determining the cost of litigation or other actions against intellectual property infringement • determining the impact of intellectual property infringement • establishing a business case for the intellectual property infringement strategy • licensing intellectual property on negotiated terms
<i>Infringement</i> occurs when:	<ul style="list-style-type: none"> • someone consciously or inadvertently uses another party's intellectual property without their permission
<i>Business case</i> consists of:	<ul style="list-style-type: none"> • a feasibility study with a cost-benefit analysis
<i>Implementation</i> may include:	<ul style="list-style-type: none"> • overseeing the: <ul style="list-style-type: none"> • development of policies and procedures around the strategy • development of a communication strategy for internal and external stakeholders • development of information sessions and training around relevant aspects of intellectual property • development of required documentation, e.g. licence agreements • negotiation of use of own and/or others' intellectual property
<i>Monitoring</i> may include:	<ul style="list-style-type: none"> • consulting key stakeholders to provide feedback on the strategy • reviewing documentation in relation to the strategy, eg licence agreements or sharing arrangements • analysing profit from commercialisation of intangible assets • reviewing any potential or real infringements of intellectual property which could have an impact on the organisation • reporting of implementation of the strategy and its variation to the intended strategy • applying corrective action where required

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Regulation, Licensing and Risk - Intellectual Property
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Co-requisite units

Co-requisite units		

BSBITU306A Design and produce business documents

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to design and produce various business documents and publications. It includes selecting and using a range of functions on a variety of computer applications.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who possess fundamental skills in computer operations and keyboarding. They may exercise discretion and judgement using appropriate theoretical knowledge of document design and production to provide technical advice and support to a team.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare resources	1.1. Select and use appropriate <i>technology</i> and <i>software</i> applications to produce required <i>business documents</i> 1.2. Select layout and style of publication according to information and <i>organisational requirements</i> 1.3. Ensure document design is consistent with company and/or client requirements, using basic design principles 1.4. Discuss and clarify format and style with person requesting document/publication
2. Design document	2.1. Identify, open and generate files and records according to task and organisational requirements 2.2. Design document to ensure efficient entry of information and to maximise the presentation and appearance of information 2.3. Use a range of <i>functions</i> to ensure consistency of design and layout 2.4. Operate <i>input devices</i> within designated requirements
3. Produce document	3.1. Complete document production within designated time lines according to organisational requirements 3.2. Check document produced to ensure it meets task requirements for style and layout 3.3. Store document appropriately and save document to avoid loss of data 3.4. Use manuals, training booklets and/or help-desks to overcome basic difficulties with document design and production
4. Finalise document	4.1. Proofread document for readability, accuracy and consistency in language, style and layout prior to final output 4.2. Make any modifications to document to meet requirements 4.3. <i>Name</i> and <i>store</i> document in accordance with organisational requirements and exit the application without data/loss damage 4.4. Print and present document according to requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- keyboarding and computer skills to complete a range of formatting and layout tasks
- literacy skills to read and understand a variety of texts; to prepare general information and papers according to target audience; and to edit and proofread documents to ensure clarity of meaning and conformity to organisational requirements
- numeracy skills to access and retrieve data
- problem-solving skills to determine document design and production processes.

Required knowledge

- appropriate technology for production requirements
- functions and features of contemporary computer applications
- organisational policies, plans and procedures
- organisational requirements for document design e.g. style guide.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> designing and producing a minimum of 3 completed business documents, using at least 2 software applications in the production of each document using appropriate data storage options knowledge of the functions and features of contemporary computer applications.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to an actual workplace or simulated environment access to office equipment and resources access to examples of style guides and organisational procedures.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate review of final printed documents demonstration of techniques observation of presentations oral or written questioning to assess knowledge of software applications.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> general administration units other IT use units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Technology</i> may include:	<ul style="list-style-type: none"> • computers • photocopiers • printers • scanners
<i>Software</i> may include:	<ul style="list-style-type: none"> • accounting packages • database packages • presentation packages • spreadsheet packages • word processing packages
<i>Business documents</i> may include:	<ul style="list-style-type: none"> • accounts statements • client databases • newsletters • project reviews • proposals • reports • web pages
<i>Organisational requirements</i> may include:	<ul style="list-style-type: none"> • budgets • correctly identifying and opening files • legal and organisational policies, guidelines and requirements • locating data • log-on procedures • manufacturers' guidelines • occupational health and safety policies, procedures and programs • quality assurance and/or procedures manuals • saving and closing files • security • storing data
<i>Functions</i> may include:	<ul style="list-style-type: none"> • alternating headers and footers • editing • merging documents

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spell checking • table formatting • using columns • using styles
<i>Input devices</i> may include:	<ul style="list-style-type: none"> • keyboard • mouse • numerical key pad • scanner
<i>Naming</i> documents may include:	<ul style="list-style-type: none"> • appropriate file type • authorised access • file names according to organisational procedure e.g. numbers rather than names • file names which are easily identifiable in relation to the content • file/directory names which identify the operator, author, section, date etc. • filing locations • organisational policy for backing up files • organisational policy for filing hard copies of documents • security
<i>Storing</i> documents may include:	<ul style="list-style-type: none"> • storage in directories and sub-directories • storage on CD-ROMs, disk drives or back-up systems • storing/filing hard copies of computer generated documents • storing/filing hard copies of incoming and outgoing facsimiles • storing/filing incoming and outgoing correspondence

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Information and Communications Technology - IT Use
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Co-requisite units

Co-requisite units		

BSBMGT402A Implement operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement the operational plan by monitoring and adjusting operational performance, producing short term plans for the department/section, planning and acquiring resources and providing reports on performance as required.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>Frontline managers are actively engaged in planning activities to achieve the measurable, stated objectives of the team and the organisation. This key role is carried out to provide safe, efficient and effective products and services to customer satisfaction within the organisation's productivity and profitability plans.</p> <p>At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning, evaluation, leadership and guidance of others.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement operational plan	<p>1.1. Collate, analyse and organise details of resource requirements in consultation with relevant personnel, colleagues and specialist resource managers</p> <p>1.2. Implement operational plans to contribute to the achievement of organisation's performance/business plan</p> <p>1.3. Identify and use key performance indicators (KPIs) to monitor operational performance</p> <p>1.4. Undertake contingency planning and consultation processes</p> <p>1.5. Provide assistance in the development and presentation of proposals for resource requirements in line with operational planning processes</p>
2. Implement resource acquisition	<p>2.1. Recruit and induct employees within organisation's policies, practices and procedures</p> <p>2.2. Implement plans for acquisition of physical resources and services within organisation's policies, practices and procedures and in consultation with relevant personnel</p>
3. Monitor operational performance	<p>3.1. Monitor performance systems and processes to assess progress in achieving profit/productivity plans and targets</p> <p>3.2. Analyse and use budget and actual financial information to monitor profit/productivity performance</p> <p>3.3. Identify unsatisfactory performance and take prompt action to rectify the situation according to organisational policies</p> <p>3.4. Provide mentoring, coaching and supervision to support individuals and teams to use resources effectively, economically and safely</p> <p>3.5. Present recommendations for variation to operational plans to the designated persons/groups and gain approval</p> <p>3.6. Implement systems, procedures and records associated with performance in accordance with organisation's requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to provide support to colleagues
- literacy skills to access and use workplace information, and to prepare reports
- planning and organising skills to monitor performance and to sequence work of self and others to achieve planned outcomes.

Required knowledge

- principles and techniques associated with:
 - contingency planning
 - methods for monitoring and reporting on performance
 - monitoring and implementing operations and procedures
 - problem identification and methods of resolution
 - relevant budgeting and financial analysis, interpretation and reporting requirements
 - resource management systems at the tactical implementation level
 - resource planning and acquisition
 - tactical risk analysis including identification and reporting requirements.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • ability to monitor and adjust operational performance, produce short-term plans for the department or section, plan and acquire resources, and provide reports on performance as required • knowledge of principles and techniques associated with monitoring and implementing operations and procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of documentation outlining contingency planning and consultation processes undertaken • demonstration of techniques in managing performance • evaluation of mentoring, coaching and supervision provided to support individuals and teams to use resources effectively, economically and safely.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Resource requirements</i> may refer to:</p>	<ul style="list-style-type: none"> • goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
<p><i>Relevant personnel, colleagues and specialist resource managers</i> may include:</p>	<ul style="list-style-type: none"> • colleagues and specialist resource managers • managers • occupational health and safety committees and other people with specialist responsibilities • other employees • people from a wide range of social, cultural and ethnic backgrounds, and people with a range of physical and mental abilities • supervisors
<p><i>Operational plans</i> may refer to:</p>	<ul style="list-style-type: none"> • organisational plans • tactical plans developed by the department or section to detail product and service performance
<p><i>Key performance indicators</i> may refer to:</p>	<ul style="list-style-type: none"> • measures for monitoring or evaluating the efficiency or effectiveness of a system, and which may be used to demonstrate accountability and to identify areas for improvements
<p><i>Contingency planning</i> may refer to:</p>	<ul style="list-style-type: none"> • contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-use • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour

RANGE STATEMENT	
	<ul style="list-style-type: none"> costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
<i>Consultation processes</i> may refer to:	<ul style="list-style-type: none"> • mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans
<i>Organisation's policies, practices and procedures</i> may include:	<ul style="list-style-type: none"> • organisational culture • Standard Operating Procedures • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • undocumented practices in line with organisational operations
<i>Performance systems and processes</i> may refer to:	<ul style="list-style-type: none"> • informal systems used by frontline managers for the work team in the place of existing organisation-wide systems • formal processes within the organisation to measure performance, such as: <ul style="list-style-type: none"> • feedback arrangements • individual and teamwork plans • KPIs • specified work outcomes
<i>Designated persons/groups</i> may include:	<ul style="list-style-type: none"> • other affected work groups or teams and groups designated in workplace policies and procedures • those who have the authority to make decisions and/or recommendations about operations such as workplace supervisors, other managers
<i>Systems, procedures and records</i>	<ul style="list-style-type: none"> • databases and other recording mechanisms for ensuring records are kept in accordance with

RANGE STATEMENT	
may include:	organisational requirements <ul style="list-style-type: none"> • individual and team performance plans • organisational policies and procedures relative to performance

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units		

BSBMGT403A Implement continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement the organisation's continuous improvement systems and processes. Particular emphasis is on using systems and strategies to actively encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>Frontline managers have an active role in implementing the continuous improvement process to achieve the organisation's objectives. Their position, closely associated with the creation and delivery of products and services, means that they have an important role in influencing the ongoing development of the organisation.</p> <p>At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, and leadership and guidance of others.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement continuous improvement systems and processes	1.1. Implement <i>systems</i> to ensure that individuals and teams are actively encouraged and supported to <i>participate in decision making processes</i> , assume responsibility and exercise initiative 1.2. Communicate the organisation's <i>continuous improvement processes</i> to individuals and teams, and obtain feedback 1.3. Ensure effective <i>mentoring and coaching</i> allows individuals and teams to implement the organisation's continuous improvement processes
2. Monitor and review performance	2.1. Use the organisation's systems and <i>technology</i> to monitor and review progress and to identify ways in which planning and operations could be improved 2.2. Improve <i>customer service</i> through continuous improvement techniques and processes 2.3. Formulate and communicate recommendations for adjustments to those who have a role in their development and implementation
3. Provide opportunities for further improvement	3.1. Implement <i>processes to ensure that team members are informed of savings and productivity/service improvements</i> in achieving the business plan 3.2. Document work performance to aid the identification of further opportunities for improvement 3.3. Manage records, reports and recommendations for improvement within the organisation's systems and processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - coach and mentor team members
 - gain the commitment of individuals and teams to continuously improve
- innovation skills to design better ways of performing work.

Required knowledge

- principles and techniques associated with:
 - benchmarking
 - best practice
 - change management
 - continuous improvement systems and processes
 - quality systems.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • taking active steps to implement, monitor and adjust plans, processes and procedures to improve performance • supporting others to implement the continuous improvement system/processes, and to identify and report opportunities for further improvement • knowledge of principles and techniques associated with continuous improvement systems and processes.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment of written reports • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of principles and techniques associated with change management • review of how the organisation's continuous improvement processes was communicated to individuals and teams • review of documentation of work performance.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Systems</i> may refer to:	<ul style="list-style-type: none"> • forums, meetings • newsletters and reports • organisational policies and procedures • web-based communication devices
<i>Participation in decision making processes</i> may include:	<ul style="list-style-type: none"> • feedback in relation to outcomes of the consultative process • processes which ensures all employees have the opportunity to contribute to organisational issues
<i>Continuous improvement processes</i> may include:	<ul style="list-style-type: none"> • cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • implementation of quality systems, such as International Standardization for Organization (ISO) • modifications and improvements to systems, processes, services and products • policies and procedures which allow the organisation to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders
<i>Mentoring and coaching</i> may refer to:	<ul style="list-style-type: none"> • providing assistance with problem-solving • providing feedback, support and encouragement • teaching another member of the team, usually focusing on a specific work task or skill
<i>Technology</i> may include:	<ul style="list-style-type: none"> • computerised systems and software such as databases, project management and word processing • telecommunications devices • any other technology used to carry out work roles and responsibilities

RANGE STATEMENT	
<i>Customer service</i> may be:	<ul style="list-style-type: none"> • internal or external • to existing, new or potential clients
<i>Processes to ensure that team members are informed of savings and productivity/service improvements</i> may refer to:	<ul style="list-style-type: none"> • email/intranet, newsletters or other communication devices • newsletters and bulletins • staff reward mechanisms • team meetings

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units		

BSBMGT515A Manage operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and monitor implementation of the operational plan to provide efficient and effective workplace practices within the organisation's productivity and profitability plans.</p> <p>Management at a strategic level requires systems and procedures to be developed and implemented to facilitate the organisation's operational plan.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to people who manage the work of others and operate within the parameters of a broader strategic and/or business plan. The task of the manager at this level is to develop and implement an operational plan to ensure that the objectives and strategies outlined in the strategic and/or business plan are met by work teams. However in some larger organisations operational plans may be developed by a strategic planning unit.</p> <p>At this level work will normally be carried out within complex and diverse methods and procedures, which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop operational plan	<p>1.1. Research, analyse and document resource requirements and develop an operational plan in consultation with relevant personnel, colleagues and specialist resource managers</p> <p>1.2. Develop and/or implement consultation processes as an integral part of the operational planning process</p> <p>1.3. Ensure details of the operational plan include the development of key performance indicators to measure organisational performance</p> <p>1.4. Develop and implement contingency plans at appropriate stages of operational planning</p> <p>1.5. Ensure the development and presentation of proposals for resource requirements is supported by a variety of information sources and seek specialist advice as required</p> <p>1.6. Obtain approval for plan from relevant parties and ensure understanding among work teams involved</p>
2. Plan and manage resource acquisition	<p>2.1. Develop and implement strategies to ensure that employees are recruited and/or inducted within the organisation's human resources management policies and practices</p> <p>2.2. Develop and implement strategies to ensure that physical resources and services are acquired in accordance with the organisation's policies, practices and procedures</p>
3. Monitor and review operational performance	<p>3.1. Develop, monitor and review performance systems and processes to assess progress in achieving profit and productivity plans and targets</p> <p>3.2. Analyse and interpret budget and actual financial information to monitor and review profit and productivity performance</p> <p>3.3. Identify areas of under performance, recommend solutions, and take prompt action to rectify the situation</p> <p>3.4. Plan and implement systems to ensure that mentoring and coaching are provided to support individuals and teams to effectively, economically and safely use resources</p> <p>3.5. Negotiate recommendations for variations to operational plans and gain approval from designated persons/groups</p>

ELEMENT	PERFORMANCE CRITERIA
	3.6. Develop and implement systems to ensure that procedures and records associated with documenting performance are managed in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to access and use workplace information and to write a succinct and practical plan
- technology skills to use software to produce and monitor the plan against performance indicators
- planning and organisational skills
- coaching skills to work with people with poor performance
- numeracy skills to allocate and manage financial resources.

Required knowledge

- models and methods for operational plans
- budgeting processes
- alternative approaches to improving resource usage and eliminating resource inefficiencies and waste.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of an operational plan with details of how it will be implemented and monitored • knowledge of models and methods for operational plans.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge of budgeting processes • review of operational plan, key performance indicators and contingency plans • evaluation of employee recruitment and induction strategies • evaluation of processes implemented to acquire physical resources and services.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Resource requirements</i> may include:</p>	<ul style="list-style-type: none"> • goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
<p><i>Relevant personnel, colleagues and specialist resource managers</i> may include:</p>	<ul style="list-style-type: none"> • employees at the same level or more senior managers • managers • occupational health and safety committee/s and other people with specialist responsibilities • supervisors • union or employee representatives
<p><i>Consultation processes</i> may refer to:</p>	<ul style="list-style-type: none"> • email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions
<p><i>Operational plans</i> may also be termed:</p>	<ul style="list-style-type: none"> • action plans • annual plans • management plans • tactical plans
<p><i>Key performance indicators</i> may refer to:</p>	<ul style="list-style-type: none"> • measures for monitoring or evaluating the efficiency or effectiveness of a system which may be used to demonstrate accountability and to identify areas for improvements
<p><i>Contingency plans</i> may include:</p>	<ul style="list-style-type: none"> • contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials

RANGE STATEMENT	
	<p>and consumables</p> <ul style="list-style-type: none"> • increasing sales or production • recycling and re-using • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
<i>Organisation's policies, practices and procedures</i> may include:	<ul style="list-style-type: none"> • organisational culture • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • Standard Operating Procedures • undocumented practices in line with organisational operations
<i>Designated persons/groups</i> may include:	<ul style="list-style-type: none"> • groups designated in workplace policies and procedures • managers or supervisors whose roles and responsibilities include decision making on operations • other stakeholders such as Board members • other work groups or teams whose work will be affected by recommendations for variations

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units	

BSBMGT516C Facilitate continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to lead and manage continuous improvement systems and processes. Particular emphasis is on the development of systems and the analysis of information to monitor and adjust performance strategies, and to manage opportunities for further improvements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to managers who take an active role in managing a continuous improvement process in order to achieve an organisation's objectives. Where managers are closely associated with the creation and delivery of products and services, they play an important part in influencing the ongoing development of the organisation.</p> <p>At this level, work will normally be carried out using complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem-solving and decision-making strategies.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lead continuous improvement systems and processes	<p>1.1. Develop <i>strategies</i> to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative as appropriate</p> <p>1.2. Establish <i>systems</i> to ensure that the organisation's <i>continuous improvement processes</i> are communicated to <i>stakeholders</i></p> <p>1.3. Ensure that change and improvement processes meet <i>sustainability requirements</i></p> <p>1.4. Develop effective mentoring and coaching processes to ensure that individuals and teams are able to implement and support the organisation's continuous improvement processes</p> <p>1.5. Ensure that insights and experiences from business activities are captured and accessible through <i>knowledge management systems</i></p>
2. Monitor and adjust performance strategies	<p>2.1. Develop strategies to ensure that systems and processes are used to monitor <i>operational progress</i> and to identify ways in which planning and operations could be improved</p> <p>2.2. Adjust and communicate strategies to stakeholders according to organisational procedures</p>
3. Manage opportunities for further improvement	<p>3.1. Establish processes to ensure that team members are informed of outcomes of continuous improvement efforts</p> <p>3.2. Ensure processes include <i>recording of work team performance</i> to assist in identifying further opportunities for improvement</p> <p>3.3. Consider areas identified for further improvement when undertaking future planning</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to communicate opportunities for improvement
- learning skills to coach and mentor staff, using a range of methods to cater for different learning styles
- innovation and lateral thinking skills to design better ways for achieving work outcomes
- planning skills to establish and monitor systems and process for continuous improvement
- teamwork and leadership skills to gain the confidence and trust of others

Required knowledge

- continuous improvement models
- knowledge management systems
- quality systems
- sustainability principles

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development and use of a range of strategies and approaches that improve work outcomes or organisational functioning, using continuous improvement models • monitoring performance and customer service.
Context of and specific resources for assessment	Assessment must ensure access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>The following assessment methods are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of reports • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of quality systems • review of strategies developed to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative • evaluation of how customer-service strategies were communicated to stakeholders • review of documentation outlining work team performance.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Strategies</i> may refer to:</p>	<ul style="list-style-type: none"> • clarification of roles and expectations • communication devices and processes, such as intranet and email communication systems, to facilitate input into workplace decisions • long-term or short-term plans that factor in opportunities for team input • mentoring and 'buddy' systems to support team members to participate in decision making • performance plans • reward and recognition programs for high performing staff • training and development activities.
<p><i>Systems</i> may refer to:</p>	<ul style="list-style-type: none"> • forums and meetings • newsletters and reports • policies and procedures • electronic communication devices.
<p><i>Continuous improvement processes</i> may include:</p>	<ul style="list-style-type: none"> • cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • modifications and improvements to systems, processes, services and products • policies and procedures that allow an organisation to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders.
<p><i>Stakeholders</i> may include:</p>	<ul style="list-style-type: none"> • business or government contacts • funding bodies • individuals within the work team • internal and external contacts • organisation's clients and customers • professional associations • senior management and board members

RANGE STATEMENT	
	<ul style="list-style-type: none"> • unions and employee groups.
<p><i>Sustainability requirements</i> may include:</p>	<ul style="list-style-type: none"> • addressing environmental and resource sustainability initiatives, such as environmental management systems, action plans, green office programs, surveys and audits • applying the waste management hierarchy in the workplace • complying with regulations and corporate social responsibility considerations for sustainability to enhance the organisation's standing in business and community environments • determining organisation's most appropriate waste treatment, including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment • implementing ecological footprinting • implementing environmental management systems, e.g. ISO 14001:1996 Environmental management systems life cycle analyses • implementing government initiatives, e.g. Australian government's Greenhouse Challenge Plus • improving resource and energy efficiency • initiating and maintaining appropriate organisational procedures for operational energy consumption • introducing a green office program (a cultural change program) • introducing green purchasing • introducing national and international reporting initiatives, e.g. Global Reporting Initiative • introducing product stewardship • reducing emissions of greenhouse gases • reducing use of non-renewable resources • referencing standards, guidelines and approaches, such as sustainability covenants and compacts or triple bottom line reporting • supporting sustainable supply chain.
<p><i>Knowledge management systems</i> may include:</p>	<ul style="list-style-type: none"> • best practice transfer • communities of practice • cross-project learning • expert directories • knowledge brokers' knowledge mapping • knowledge repositories • measuring and reporting intellectual capital • mentoring

RANGE STATEMENT	
	<ul style="list-style-type: none"> • performance management • post-project reviews • proximity and architecture • social software • storytelling.
<i>Operational progress</i> may refer to:	<ul style="list-style-type: none"> • customer service indicators • OHS indicators • productivity gains • success in meeting agreed goals and performance indicators.
<i>Recording of work team performance</i> may include:	<ul style="list-style-type: none"> • annotated performance plans • quantitative data, such as production figures • recommendations for improvement • records and reports.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and leadership - management
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Co-requisite units

Co-requisite units		

BSBMGT608C Manage innovation and continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to sustain and develop an environment in which continuous improvement, innovation and learning are promoted and rewarded.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to people with managerial responsibilities, including for building a better and more effective work environment. Continuous improvement and innovation have links with the model of the learning organisation and people working at this level play an important role in building the culture, values and attitudes of the organisation.</p> <p>Links may be made between continuous improvement and formal quality systems, such as International Organization for Standardization (ISO) or quality software. However it is not assumed that formal quality systems or software are in the workplace.</p> <p>Innovation is seen as an important attitude and set of practices, which should be fostered by people working at this level in teams and across the organisation.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Review programs, systems and processes</p>	<p>1.1. Establish strategies to monitor and evaluate performance and <i>sustainability</i> of key systems and processes</p> <p>1.2. Undertake detailed analyses of <i>supply chains</i>, and operational, product and service delivery systems</p> <p>1.3. Identify performance measures, and assessment tools and techniques, and evaluate their effectiveness</p> <p>1.4. Analyse <i>performance reports</i> and variance from plans for key result areas of the organisation</p> <p>1.5. Identify and analyse changing trends and opportunities relevant to the organisation</p> <p>1.6. Seek advice from specialists, where appropriate, to identify technology and electronic commerce opportunities</p>
<p>2. Develop options for continuous improvement</p>	<p>2.1. Brief groups on performance improvement strategies and innovation as an essential element of competition</p> <p>2.2. Foster creative climate and organisational learning by promoting interaction within and between work groups</p> <p>2.3. Encourage, test and recognise new ideas and entrepreneurial behaviour where successful</p> <p>2.4. Accept failure of an idea during trialling, and recognise, celebrate and embed success into systems</p> <p>2.5. Undertake risk management and cost-benefit analysis for each option or idea approved for trial</p> <p>2.6. Approve innovations through agreed organisational processes</p>
<p>3. Implement innovative processes</p>	<p>3.1. Promote continuous improvement and sustainability as essential to doing business</p> <p>3.2. Address impact of change and consequences for people, and implement transition plans</p> <p>3.3. Ensure objectives, timeframes, measures and communication plans are in place to manage implementation</p> <p>3.4. Implement contingency plans in the event of non-performance</p> <p>3.5. Follow up failure by prompt investigation and analysis of causes and manage emerging challenges and opportunities effectively</p>

ELEMENT	PERFORMANCE CRITERIA
	3.6. Ensure that learnings from activities are captured and managed to inform future work 3.7. Regularly evaluate continuous improvement systems and processes 3.8. Communicate costs and benefits of innovations and improvements to relevant groups and individuals

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify improvement opportunities in relation to:
 - concepts and ideas developed
 - services or products delivered
- flexibility and creativity skills to think laterally
- learning skills to develop options for continuous improvement
- teamwork and leadership skills to foster a commitment to quality and an openness to innovation

Required knowledge

- cost-benefit analysis methods
- creativity and innovation theories and concepts
- organisational learning principles
- quality management and continuous improvement theories
- risk management
- sustainability practices

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • demonstration of consultation processes to introduce or evaluate an existing continuous improvement process or system, including suggested actions or an action plan • generation of an idea or concept that exhibits creative thinking and offers the possibility of benefiting the organisation • demonstration of how the concept or idea was introduced, tested and evaluated, which does not have to have been shown to work or to be adopted by the business • application of knowledge of quality management and continuous improvement theories.
Context of and specific resources for assessment	Assessment must ensure access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>The following assessment methods are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of reports • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of creativity and innovation theories and concepts • evaluation of strategies established to monitor and evaluate performance of key systems and processes • review of briefing of groups on performance improvement strategies and innovation • review of documentation communicating costs and benefits of innovations and improvements to relevant groups and individuals.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Sustainability may include:

- addressing environmental and resource sustainability initiatives, such as environmental management systems, action plans, green office programs, surveys and audits
- applying the waste management hierarchy in the workplace
- complying with regulations and corporate social responsibility considerations for sustainability to enhance the organisation's standing in business and community environments
- determining organisation's most appropriate waste treatment, including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment
- implementing ecological footprint
- implementing environmental management systems, e.g. ISO 14001:1996 Environmental management systems life cycle analyses
- implementing government initiatives, e.g. Australian government's Greenhouse Challenge Plus
- improving resource and energy efficiency
- initiating and maintaining appropriate organisational procedures for operational energy consumption
- introducing a green office program - a cultural change program
- introducing green purchasing
- introducing national and international reporting initiatives, e.g. Global Reporting Initiative
- introducing product stewardship
- reducing emissions of greenhouse gases
- reducing use of non-renewable resources
- referencing standards, guidelines and approaches, such as sustainability covenants and compacts or triple bottom line reporting
- supporting sustainable supply chain.

Supply chains include:

- network of facilities that procures raw materials, transforms them into intermediate products or services

RANGE STATEMENT	
	<p>and then finished goods or service, and delivers them through a distribution system</p> <ul style="list-style-type: none"> • procurement, production and distribution, viewed as interlinked not as discrete elements.
<p><i>Performance reports</i> may include:</p>	<ul style="list-style-type: none"> • budget or cost variance • customer service • environmental • financial • OHS • quality • other operating parameters.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and leadership - management
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Co-requisite units

Co-requisite units		

BSBMKG401B Profile the market

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to profile a target market or market segments in accordance with a marketing plan and to develop market positioning strategies.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals working in a marketing team who are responsible for segmenting a target market to review alignment with organisational marketing objectives. This involves identifying viable market segments and profiling target consumers, and then defining the target market in more detail and developing strategies to position products and services.</p> <p>This unit is relevant to individuals working in a variety of marketing communications occupational roles, including advertising, direct marketing, promotional marketing, personal selling and public relations.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Segment the market	1.1. Identify <i>criteria</i> for use in segmenting the market in accordance with the marketing plan 1.2. Identify and access <i>sources of information for segmenting and profiling markets</i> in accordance with the marketing plan 1.3. Segment the market in accordance with identified criteria 1.4. Review market segments for their usefulness in terms of factors such as their <i>size, potential, distinctive needs, easy identification of members</i> or <i>distinctive media use patterns</i> 1.5. Select <i>market segments</i> to meet marketing objectives, and choose and apply new segmentation criteria if required
2. Identify the target market	2.1. Evaluate <i>approaches</i> to determining and describing the total market for a product or service 2.2. Define the target market in terms of the consumers to be included as <i>prospective users</i> of a product or service, and the selected market segments 2.3. Use <i>segment descriptors</i> to describe the target market 2.4. Identify available <i>strategic marketing options</i> and select <i>targeting strategies</i> that best meet the requirements of the marketing plan
3. Profile the target audience	3.1. Describe the total market and selected market segments in the form of a consumer profile 3.2. Identify consumer characteristics in <i>standard statistical terms</i> and/or the descriptive terms used in media selection in the consumer profile 3.3. Use <i>demographic</i> and/or <i>psychographic descriptions</i> in the consumer profile in accordance with the requirements of the marketing plan 3.4. Describe consumer attitudes to products or services being offered 3.5. Ensure profile meets organisational requirements in terms of language, format, content and level of detail
4. Develop a positioning strategy	4.1. Identify available <i>positioning strategies</i> and choose a strategy to meet <i>marketing requirements</i> and consumer profile 4.2. Write a positioning implementation plan containing

ELEMENT	PERFORMANCE CRITERIA
	several options, in accordance with organisational requirements 4.3. Submit plan to supervisor within specified time lines and make appropriate adjustments based on feedback

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- creativity and innovation skills to select targeting and positioning strategies that meet organisation's requirements
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects of business operations such as:
 - Australian Direct Marketing Association (ADMA) Direct Marketing Code of Practice
 - Free TV Australia Commercial Television Industry Code of Practice
 - privacy laws
 - sweepstakes regulations
 - Trade Practices Act
- literacy skills to prepare reports and to interpret internal and external marketing information
- research skills to identify and analyse market segments and target markets.

Required knowledge

- Australian Marketing Institute Code of Professional Conduct
- data collection and analysis techniques
- industry knowledge including:
 - components of the marketing mix
 - elements of marketing planning
- marketing communications concepts and processes
- organisational structures, roles, responsibilities, business and marketing plans
- product and service standards and best practice models
- relevant legislation from all forms of government that may affect aspects of business operation in addition to those listed above, especially in relation to occupational health and safety, environmental issues, equal opportunity, industrial relations and anti-discrimination
- statistical terms used by the Australian Bureau of Statistics.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> developing a market positioning strategy that documents market segmentation, consumer profiling, targeting and strategies relevant to a product or service being offered to the marketplace.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to appropriate documentation and resources normally used in the workplace access to information on past profiling, segmentation and targeting performed for a product or service.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following assessment methods are appropriate for this unit:</p> <ul style="list-style-type: none"> assessment of positioning implementation plan direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate observation of the application of criteria to segment markets, selection of targeting strategies oral or written questioning to assess knowledge and understanding presentation of marketing profiling activities review of authenticated documents from the workplace or training environment review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBMKG402B Analyse consumer behaviour for specific markets BSBMKG507A Interpret market trends and developments.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Criteria may include:

- attitude
- average order value in units and dollars
- desired benefits
- business characteristics
- consumer needs
- demographics
- geography
- lifestyle
- lifetime value in units, dollars and number of transactions
- product or service usage
- psychographics
- recency and frequency of response to direct marketing activities
- social and cultural factors

Sources of information for segmenting and profiling markets may include:

- advertising sales representatives
- existing research data
- industry sources
- media representatives
- original a priori research (where the market segments are assumed at the beginning and research is used to confirm them)
- original response based research
- owners or brokers of mail, email and phone lists
- sales representatives
- website operators

Usefulness in terms of ***size*** may include:

- segments which are large enough to justify the expense of creating distinctive offers and creative executions
- small segments which are viable if telephone and email are used as communication media rather than other types of media

RANGE STATEMENT	
<i>Potential</i> may include:	<ul style="list-style-type: none"> • high response of market segment members to test campaigns • high response to previous campaigns by members of market segments
<i>Distinctive needs</i> may include:	<ul style="list-style-type: none"> • specific price points • specific products or services • specific response vehicles such as: <ul style="list-style-type: none"> • store visiting only • website only response • specific timing of communications such as: <ul style="list-style-type: none"> • day of week • seasonality • time of day
<i>Easy identification of members</i> may include:	<ul style="list-style-type: none"> • flags such as: <ul style="list-style-type: none"> • postcode • date of last purchase • geographical location of segment members, such as: <ul style="list-style-type: none"> • city • metropolitan region • regional centre • rural region • state or territory • spending habits such as: <ul style="list-style-type: none"> • one-off purchasers • subscribers
<i>Distinctive media use patterns</i> may include:	<ul style="list-style-type: none"> • age • email use • ethnic language television, newspapers and radio • gender • internet use • mobile phone use • special interests
Selection of <i>market segments</i> may be contingent upon:	<ul style="list-style-type: none"> • expected frequency of purchase • expected lifetime as customers • expected volume of purchase • how efficiently segment members can be reached with targeted communications

RANGE STATEMENT	
	<ul style="list-style-type: none"> • one or more segments
<i>Approaches</i> may include:	<ul style="list-style-type: none"> • describing total market in dollar or unit terms as gross sales of all other products or services similar to those offered by the organisation • describing total market in prospect terms as those most similar to current customers • identifying consumers with relevant needs • identifying current users of a product or service • identifying people with related characteristics
<i>Prospective users</i> may include:	<ul style="list-style-type: none"> • market segment users most similar to current customers
<i>Segment descriptors</i> may include:	<ul style="list-style-type: none"> • demographic descriptions • geographic descriptions • historic descriptions such as: <ul style="list-style-type: none"> • volume of purchase • frequency of purchase • psychographic descriptions
<i>Strategic marketing options</i> may include:	<ul style="list-style-type: none"> • advertising strategies such as: <ul style="list-style-type: none"> • most cost effective creative executions • most cost effective media or media vehicle for each segment • most cost-effective media or media vehicle • distribution strategies such as: <ul style="list-style-type: none"> • one-step • multi-step • innovative strategies
<i>Targeting strategies</i> may include:	<ul style="list-style-type: none"> • anniversary of first purchase • concentrated, differentiated and mass strategies • de-duping prospect lists against customer lists • differentiation and segmentation • ease of entry • frequency of purchase • gender • geography of home or workplace • growth considerations • innovation • market share • media usage • niche markets

RANGE STATEMENT	
	<ul style="list-style-type: none"> • price sensitivity • purchasing power • recency of purchase • sales volume
<i>Standard statistical terms</i> may include:	<ul style="list-style-type: none"> • categories used by the Australian Bureau of Statistics in collecting and reporting census data • media selection terms such as: <ul style="list-style-type: none"> • behaviouristics • demographics • geo-demographic analysis of census data available from proprietary research suppliers • geographic selections and segmentations
<i>Demographic descriptions</i> may include:	<ul style="list-style-type: none"> • age • date and place of birth • disability • education • first language • gender • household income • indigenous Australian • languages spoken at home • marital status • nationality • number and age of children • occupation
<i>Psychographic descriptions</i> may include:	<ul style="list-style-type: none"> • activities • affiliations • attitudes • interests • lifestyle • opinions • political views • values
<i>Positioning strategies</i> may include:	<ul style="list-style-type: none"> • competitive positioning • conspicuous positioning • convenience of use • convenience to buy • image perceptions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • market follower positions • market leader positions • Me-Too positioning • prestige and exclusive positioning • pricing • quality • repositioning • service positioning • uniqueness • value positioning
<i>Marketing requirements</i> may include:	<ul style="list-style-type: none"> • business-to-business marketing • direct marketing • ideas marketing • marketing of goods • public sector marketing • services marketing • telemarketing

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Business Development - Marketing
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Co-requisite units

Co-requisite units		

BSBMKG413A Promote products and services

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to coordinate and review the promotion of an organisation's products and services.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals with a broad knowledge of the promotion of products and services specific to an organisation. They may have responsibility to provide guidance or to delegate aspects of these tasks to others.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan promotional activities	1.1. Identify and assess <i>promotional activities</i> to ensure compatibility with <i>organisational requirements</i> 1.2. Plan and schedule promotional activities according to the marketing needs of the organisation 1.3. Determine overall promotional objectives in consultation with <i>designated individuals and groups</i> 1.4. Ensure that time lines and costs for promotion of activities are realistic and consistent with budget resources 1.5. Develop action plans to provide details of products and services being promoted
2. Coordinate promotional activities	2.1. Ensure <i>personnel and resources</i> to support promotional activities are identified and prepared to facilitate the achievement of promotional goals 2.2. Identify and agree <i>roles and responsibilities</i> for delivery of promotional services and allocate to relevant personnel 2.3. Establish and conduct relationships with targeted groups in a manner which enhances the positive image of the organisation 2.4. Use <i>networks</i> to assist in the implementation of promotional activities
3. Review and report on promotional activities	3.1. Analyse audience feedback and data to determine the impact of the promotional activity on the delivery of products and services 3.2. Assess effectiveness of planning processes to identify possible improvements in future activities 3.3. Collect <i>feedback</i> and provide to personnel and agencies involved in promotional activity 3.4. Analyse costs and time lines to evaluate the benefits accruing from the promotional activities 3.5. Prepare conclusions and recommendations from verifiable evidence and provide constructive advice on future directions of promotional activities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to read a variety of texts; to prepare general information and papers; and to write formal and informal letters according to target audience
- technology skills to select and use technology appropriate to a task
- problem-solving skills to manage contingencies in promotional activities
- numeracy skills to analyse data and to compare time lines and promotional costs against budgets.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - environmental issues
 - occupational health and safety (OHS)
- planning processes for organising promotional activities
- organisational marketing plan and associated budgets.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • designing and delivering promotional presentations • evaluating promotional impacts • presenting and advocating promotional strategies within the organisation • assessing and reporting on customer satisfaction
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of products/services and promotional strategies.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of action plans developed for products and services being promoted • analysis of responses to case studies and scenarios • demonstration of techniques • observation of presentations • assessment of written reports.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other marketing, sales or public relations units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Promotional activities</i> may include:</p>	<ul style="list-style-type: none"> • advertisements • client functions • employee functions • media announcements • product launches • web pages
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practices • confidentiality and security requirements • defined resource parameters • ethical standards • filing and documentation storage processes • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options • pricing and discount policies • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services
<p><i>Designated individuals and groups</i> may include:</p>	<ul style="list-style-type: none"> • colleagues • committees • customers • external organisations • line management • supervisor
<p><i>Personnel and resources</i> may include:</p>	<ul style="list-style-type: none"> • management • marketing funds • organisational personnel • promotional products

RANGE STATEMENT	
	<ul style="list-style-type: none"> • samples • technology • time • venue
<i>Roles and responsibilities</i> may include:	<ul style="list-style-type: none"> • Code of Conduct • job description and employment arrangements • marketing plans • organisation's policy relevant to work role • skills, training and competencies • supervision and accountability requirements including OHS • team structures
<i>Networks</i> may include:	<ul style="list-style-type: none"> • company • customer • internal • media and promotional • professional • social
<i>Feedback</i> may include:	<ul style="list-style-type: none"> • customer/client response • employee data • sales orders • market share data • focus groups

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Business Development - Marketing
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Co-requisite units

Co-requisite units		

BSBMKG501B Identify and evaluate marketing opportunities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to identify, evaluate and take advantage of marketing opportunities by analysing market data, distinguishing the characteristics of possible markets and assessing the viability of changes to operations.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals working in senior marketing management roles who, together with a marketing team, identify, investigate and evaluate marketing opportunities to determine whether they meet organisational and marketing objectives. Based on this evaluation, changes to current business operations can be determined to take advantage of marketing opportunities.</p> <p>Adjusting the marketing mix in the light of new marketing opportunities is covered in BSBMKG502B Establish and adjust the marketing mix.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify marketing opportunities	1.1. Analyse <i>information on market and business needs</i> to identify <i>marketing</i> opportunities 1.2. Research potential <i>new markets</i> and assess opportunities to enter, shape or influence the market in terms of likely <i>contribution to the business</i> 1.3. Explore entrepreneurial, innovative approaches and creative ideas for their potential business application, and develop into potential marketing opportunities
2. Investigate marketing opportunities	2.1. Identify and analyse opportunities in terms of their likely fit with organisational goals and capabilities 2.2. <i>Evaluate</i> each opportunity to determine its impact on current business and customer base 2.3. Use an assessment of <i>external factors</i> , costs, benefits, risks and opportunities to determine the financial viability of each marketing opportunity 2.4. Determine probable return on investment and potential competitors 2.5. Describe and rank marketing opportunities in terms of their viability and likely contribution to the business
3. Evaluate required changes to current operations	3.1. Identify and document changes needed to current operations to take advantage of viable marketing opportunities 3.2. Ensure organisational changes to service an increased or different customer base include provision for continued quality of service to existing customers 3.3. Estimate <i>resource requirements</i> for changed operations 3.4. Determine and communicate viability of making changes to current operations to <i>key stakeholders</i> 3.5. Document newly identified marketing opportunities and required changes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- literacy skills to identify and interpret market information, to write in a range of styles for different audiences and to document outcomes and requirements
- numeracy skills to calculate and evaluate financial information on new marketing options
- research and evaluation skills to gain information on and interpret market trends to identify marketing opportunities.

Required knowledge

- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects of business operations such as:
 - anti-discrimination legislation and the principles of equal opportunity, equity and diversity
 - ethical principles
 - marketing codes of practice and conduct such as the Australian Direct Marketing Association (ADMA) Direct Marketing Code of Practice; Free TV Australia Commercial Television Industry Code of Practice; and the Australian E-commerce Best Practice Model
 - privacy laws
 - Trade Practices Act
- organisational marketing plan, structure, products and services
- principles of marketing and the marketing mix
- statistical methods and techniques to evaluate marketing opportunities, including forecasting techniques.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> identifying and evaluating marketing opportunities to determine whether they will meet organisational objectives documenting how current business operations will need to be modified and what resources will be required to take advantage of newly identified and evaluated opportunities.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to office equipment and resources access to organisational strategic and marketing plans.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> analysis of responses to case studies assessment of written reports on identified marketing opportunities and evaluation activities direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate observation of presentations on opportunity identification, evaluation and required resources to capitalise on new marketing opportunities oral or written questioning to assess knowledge and understanding review of authenticated documents from the workplace or training environment review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBMKG502B Establish and adjust the marketing

EVIDENCE GUIDE	
	<ul style="list-style-type: none">mix• international business units• other marketing units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Information on market and business needs</i> may include:	<ul style="list-style-type: none"> • comparative market information • competitors' performance • customer requirements • legal and ethical requirements • market share • market trends and developments • new and emerging markets • profitability • sales figures
<i>Marketing</i> may include:	<ul style="list-style-type: none"> • business-to-business marketing • direct marketing • ideas marketing • marketing of goods • public sector marketing • services marketing • telemarketing
<i>New markets</i> may include:	<ul style="list-style-type: none"> • e-commerce • export markets • segments of the market not currently penetrated
<i>Contribution to the business</i> may include:	<ul style="list-style-type: none"> • effect on sales volume • growth • market share • profitability
<i>Evaluation</i> may include:	<ul style="list-style-type: none"> • investigation of: <ul style="list-style-type: none"> • knockout factors • present value analysis • return on investment • scored criteria • weighted criteria
<i>External factors</i> may include:	<ul style="list-style-type: none"> • codes of practice • policies and guidelines

RANGE STATEMENT	
	<ul style="list-style-type: none"> • regulations • relevant legislation
<i>Resource requirements</i> may include:	<ul style="list-style-type: none"> • additional staff • distribution costs • equipment • production costs • promotional costs • research and development • re-tooling • staff training
<i>Key stakeholders</i> may include:	<ul style="list-style-type: none"> • Board of directors • finance staff • human resources staff • managers • marketing personnel • owners • production staff • supervisors

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Business Development - Marketing
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Co-requisite units

Co-requisite units	

BSBPMG401A Apply project scope management techniques

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to contribute to the control of a project's scope by assisting with the identification of objectives, deliverables, constraints, assumptions and outcomes; and by applying controls once the project has commenced. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>This unit applies to a project team member working under the direction of a project manager with other project team members. The individual may be operating within an organisation or as a consultant. The skills should be applied in the context of multiple complex projects, with the individual operating as part of a specialist project management team.</p> <p>In the context of this unit a complex project is defined as a project which involves:</p> <ul style="list-style-type: none"> • a comprehensive and multi faceted project plan • a formal internal or external communications strategy • a dedicated and diverse project budget • multiple administrative components • multiple operational components • a wide range of stakeholders • a project operations team. <p>The functions performed by a worker managing a straightforward project or a section of a larger project where project management is not the main focus of the job role are covered by BSBPMG510A Manage projects.</p> <p>The functions performed by a project manager to manage the scope of the whole project are addressed in BSBPMG502A Manage project scope.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to scope definition	<p>1.1. Contribute to the identification of <i>project deliverables</i></p> <p>1.2. Contribute to the identification of measurable outcomes to enable evaluation of project performance</p> <p>1.3. Contribute to the development of the <i>scope management plan</i></p>
2. Apply project scope controls	<p>2.1. Undertake work in accordance with agreed project management plan and by using established <i>change control procedures</i> and <i>performance measurement procedures</i></p> <p>2.2. Monitor and control aspects of project scope and communicate instances of non-compliance with overall scope to the project manager and other team members</p> <p>2.3. Measure progress to determine potential, perceived and actual scope changes</p> <p>2.4. Appropriately report scope changes</p> <p>2.5. Provide assistance in the review of project outcomes to determine the effectiveness of initial and subsequent scope management approaches</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills sufficient to interpret potentially complex project plans and documentation
- planning and organisational skills to monitor and respond to compliance issues and to measure progress against agreed objectives
- teamwork and communication skills to liaise with other members of the project team on a range of project scope management issues and challenges.

Required knowledge

- elements which make up a project scope management plan
- methods for measuring work outcomes and progress against plans
- factors likely to impact on project scope
- methods for segmenting and documenting the work of a project.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • knowledge of project scope management methodologies • participation in the definition and management of scope in relation to multiple complex projects.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to project documentation which includes information about project scope and project team involvement.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • analysis of responses addressing different project scope management scenarios • oral or written questioning to assess knowledge of strategies for managing project scope and their application to different situations • assessment of contribution to the development of the scope management plan • evaluation of progress measured to determine potential, perceived and actual scope changes.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Project Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Project deliverables</i> may include:	<ul style="list-style-type: none"> • products, outputs and services defined within the project scope
<i>Scope management plan</i> may include:	<ul style="list-style-type: none"> • constraints, assumptions and exclusions • deliverables, activities and tasks • project benefits and outcomes • project objectives • work organisation and/or product breakdown structures
<i>Change control procedures</i> may include:	<ul style="list-style-type: none"> • adjusting designated project documentation, for example plans, schedules, directives, guidelines and instructions which include change instructions, change request procedures and nominated change authorities • identifying designated elements of the project liable to change, for example finance and duration of tasks
<i>Performance measurement procedures</i> may include:	<ul style="list-style-type: none"> • using tools and techniques to manage and measure project progress in terms of time and resources

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Project Management
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Co-requisite units

Co-requisite units		

BSBPRO401A Develop product knowledge

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop product knowledge in preparation for the sales process.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals in a sales related position in a small, medium or large enterprise across a wide variety of industries and contexts who develop their product knowledge prior to undertaking selling activities. They may provide advice and support about aspects of sales solutions to support a sales team.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Acquire knowledge of products in a specified area	1.1. Identify <i>information sources</i> about <i>products</i> in a specified area and evaluate them for reliability and validity 1.2. Identify product purpose/s and use/s 1.3. Identify key <i>features</i> of the product/s 1.4. Identify product strengths and weaknesses 1.5. Articulate guarantees and warranties and identify service support details
2. Convert product knowledge into benefits	2.1. Identify features of the product which have potential buyer appeal 2.2. Present features of the product which have buyer appeal as benefits to the buyer 2.3. Present product benefits within the context of <i>organisational requirements</i> and legislation
3. Evaluate competitors' products	3.1. Use a range of information sources to identify competitors' products 3.2. Compare features, benefits, strengths and weaknesses of competitors' products with own products 3.3. Establish relative standing of the organisation's product with the competitors' product/s and communicate differences to the buyer

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- information management skills to summarise information verbally and non-verbally
- literacy and numeracy skills to interpret sales data and to summarise information obtained from a variety of verbal and non-verbal sources.

Required knowledge

- features, benefits, strengths and weaknesses of own organisation's and competitors' products
- industry competitors, trends and developments
- organisational structure/s, roles and responsibilities, policies, procedures, product labelling and descriptions
- potential buyer markets
- processes used when buying and selling products and services
- identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:
 - anti-discrimination
 - consumer protection
 - contract law legislation
- ethical principles
 - privacy laws
 - Trade Practices Act.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • comparison of the key features and benefits of product/s with competitor offerings • demonstration of product knowledge offered by an organisation • presentation of key features and benefits of own product/s.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to information sources about an organisation's and competitors' products, services or ideas • access to office equipment and resources.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentation of key features and benefits to customers or simulated customers • oral or written questioning to assess knowledge of features, benefits, strengths and weaknesses of organisation's and competitors' products • review of evaluation of identification of information sources about products in a specified area • evaluation of strengths and weaknesses established for competitors' products.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSLS402A Identify sales prospects • BSBSLS403A Present a sales solution

EVIDENCE GUIDE

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| <ul style="list-style-type: none">• BSBSLS405A Support post-sale activities |
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Information sources</i> may include:	<ul style="list-style-type: none"> • associations • catalogues • claims of competitive sales people • competitor websites • competitor sales literature • external sales data sources such as warehouse withdrawals • internal sales data records • other company personnel • sales conventions • trade association magazines • trade shows
<i>Products</i> may include:	<ul style="list-style-type: none"> • goods • ideas • services
<i>Features</i> may include:	<ul style="list-style-type: none"> • brand • colour • country of origin • covenant • manufacturer • product care details • safety aspect • shelf life • size • style • warnings
<i>Organisational requirements</i> may include:	<ul style="list-style-type: none"> • level of client service required • policies and procedures which are formally documented and are available for reference within the workplace

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Business Development - Sales
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Co-requisite units

Co-requisite units		

BSBREL401A Establish networks

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and maintain effective work relationships and networks. It covers the relationship building and negotiation skills required by workers within an organisation as well as freelance or contract workers.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals with a broad knowledge of networking and negotiation who contribute well developed skills in creating solutions to unpredictable problems through analysis and evaluation of information from a variety of sources. They may have responsibility to provide guidance or to delegate aspects of tasks to others.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop and maintain business networks	1.1. Use appropriate <i>network strategies</i> to establish and maintain relationships that promote the development of business opportunities 1.2. Identify and pursue network opportunities to maximise a range of contacts 1.3. Communicate information regarding new networks to inform individuals, colleagues and clients of potential benefits 1.4. Participate in <i>professional networks and associations</i> to obtain and maintain personal knowledge and skills
2. Establish and maintain business relationships	2.1. Develop and maintain relationships to promote benefits consistent with <i>organisational/client requirements</i> 2.2. Gain and maintain trust and confidence of contacts through demonstration of high standards of business practices 2.3. Use a high level of <i>negotiation skills</i> to encourage positive outcomes 2.4. Identify difficult situations and negotiate solutions using collaborative problem-solving techniques 2.5. Seek specialist advice in the development of contacts where appropriate
3. Promote the relationship	3.1. Develop strategies to represent and promote the interests and requirements of the relationship 3.2. Use appropriate presentation skills to communicate the goals and objectives of the relationship 3.3. Effectively communicate issues, policies and practices of the relationship to a range of audiences, in writing and verbally 3.4. Obtain <i>feedback</i> to identify and develop ways to improve promotional activities within available opportunities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to receive and report on feedback, to maintain effective relationships and to manage conflict
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- leadership skills to gain trust and confidence of clients and colleagues
- negotiation skills to achieve mutually acceptable outcomes
- technology skills to support effective communication and presentation.

Required knowledge

- client or organisational policies, plans and procedures
- related organisations, agencies and networks
- trends and forecasts for relevant industries, services and products.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • establishing contacts and participating in networks • identifying opportunities for networking • knowledge of related organisations, agencies and networks • maintaining records of relevant contacts.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • access to examples of networking strategies and documentation.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of documentation communicating issues, policies and practices of the relationship to a range of audiences • evaluation of promotional strategies • observation of negotiation of solutions between groups and individuals • observation of promotional presentations.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • interpersonal communication units • other relationship management units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Network strategies</i> may include:</p>	<ul style="list-style-type: none"> • association memberships • conference participation • distributing materials • individual marketing • maintaining regular contact • seminar attendance
<p><i>Professional networks and associations</i> may include:</p>	<ul style="list-style-type: none"> • advisory committees • colleagues • committees • government agencies • internal/external customers • lobby groups • local inter-agency groups • other organisations • professional/occupational associations • project specific ad hoc consultative/reference groups • specific interest or support groups • suppliers • work team
<p><i>Organisational/client requirements</i> may be included in:</p>	<ul style="list-style-type: none"> • access and equity principles and practices • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • marketing plan • occupational health and safety policies, procedures and programs • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals

RANGE STATEMENT	
<i>Negotiation skills</i> may include:	<ul style="list-style-type: none"> • assertiveness • bargaining • collaboration • confidence building • conflict reduction • empathising • offers and counter offers • solution designing • stress management
<i>Feedback</i> may include:	<ul style="list-style-type: none"> • accuracy and sufficiency of information • appropriateness of audience • benefits to organisation • impact of message • liaison with networks • participation of competitors • use of media

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Stakeholder Relations - Relationship Management
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Co-requisite units

Co-requisite units	

BSBREL402A Build client relationships and business networks

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to establish, maintain and improve client relationships, and to actively participate in networks to support attainment of key business outcomes.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals in a variety of roles who are required to establish, maintain and improve client relationships to facilitate organisational objectives.</p> <p>This unit primarily applies to marketing and sales professionals who depend on excellent interpersonal relationships and communication skills to achieve outcomes, but may also apply to other individuals working in any industry.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Initiate interpersonal communication with clients	1.1. Identify and use <i>preferred client communication styles and methods</i> 1.2. Establish rapport with clients using <i>verbal</i> and <i>non-verbal communication</i> processes 1.3. Investigate and act upon opportunities to offer positive feedback to clients 1.4. Use open questions to promote two-way communication 1.5. Identify and act upon potential <i>barriers to effective communication</i> with clients 1.6. Initiate communication processes which relate to client needs, preferences and expectations
2. Establish client relationship management strategies	2.1. Develop client loyalty objectives focussing on the development of long term business partnerships 2.2. Assess client profile information to determine approach 2.3. Develop <i>client loyalty strategies</i> to attract and retain clients in accordance with the business strategy 2.4. Identify and apply <i>client care and client service standards</i>
3. Maintain and improve ongoing relationships with clients	3.1. Develop <i>strategies to obtain ongoing feedback</i> from clients to monitor satisfaction levels 3.2. Develop strategies to elicit feedback which provide information in a form that can be used to improve relationships with clients 3.3. Obtain feedback to develop and implement strategies which maintain and improve relationships with clients
4. Build and maintain networks	4.1. Allocate time to establish and maintain business contacts 4.2. Participate in <i>business associations</i> and/or <i>professional development activities</i> to establish and maintain a <i>network</i> of support for the business and to enhance personal knowledge of the market 4.3. Establish communication channels to exchange <i>information and ideas</i> 4.4. Provide, seek and verify information to the network

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to determine client needs and preferences through active listening and presenting ideas clearly and precisely
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- interpersonal skills to establish rapport, and to build and maintain relationships with clients.

Required knowledge

- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects business operations, such as:
 - anti-discrimination legislation
 - consumer laws including appropriate state/territory legislation
 - ethical principles
 - marketing code of practice
 - privacy laws
 - Trade Practices Act
- marketing communications concepts and processes
- principles and techniques for effective communication and networking
- sources of business related networks.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • establishing and maintaining relationships with a range of clients related to the candidate's business • participating in and providing, an active contribution to a business related network.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to office equipment and resources.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment of written reports or journals on client relationship activities • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of the candidate communicating with clients • observation of presentations made to business networks • oral or written questioning to assess knowledge and understanding • review of authenticated documents from the workplace or training environment • review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other relationship management units • marketing units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Preferred client communication styles and methods</i> may include:	<ul style="list-style-type: none"> • email • face-to-face • mail • phone
<i>Verbal communication</i> may include:	<ul style="list-style-type: none"> • articulation • clarity of speech • feedback • language • listening skills • open questions • questioning skills • voice modulation • voice projection
<i>Non-verbal communication</i> may include:	<ul style="list-style-type: none"> • active listening • body language • body orientation • clothing • colour • distance • facial expression • grooming • gestures • music • posture • sound • touching • voice
<i>Barriers to effective communication</i> may include:	<ul style="list-style-type: none"> • acting on false assumptions and stereotypes • cultural differences not being addressed • educational differences not being addressed • failure to prominently display contact details in all communications provided to the client

RANGE STATEMENT	
	<ul style="list-style-type: none"> • inappropriate word choice • ineffective non-verbal communication • lack of 'contact us' forms or pages on websites • lack of distribution of reply paid cards or envelopes in mail outs • lack of voice modulation and articulation • limited opening hours of call centres or office • not listening actively • organisational factors • physical, personal, gender and age differences not being addressed
<i>Client loyalty strategies</i> include:	<ul style="list-style-type: none"> • access to dedicated staff • added value offers • anniversary offers • client clubs • client reward schemes • credit or discount facilities • dedicated or private facilities • discounts • formal letter of thanks • frequent purchaser programs • handwritten note thanking the client • offering promotional items • phone call thanking client for the business • regular recontact with best clients • thank you gifts and promotions
<i>Client care and client service standards</i> may include:	<ul style="list-style-type: none"> • accuracy of billing • accuracy of product/service descriptions, specifications in marketing communications • complaint resolution times • incidences of stock outs and back orders • on-hold times • order delivery standards such as: <ul style="list-style-type: none"> • whether right product or service was delivered • delivered to right person or address • delivered on time • politeness, helpfulness and grooming of delivery staff • delivery vehicles parked properly

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cleanliness of delivery vehicles • shipment tracking services • telephone answering times and responses
<i>Strategies to obtain ongoing feedback</i> may include:	<ul style="list-style-type: none"> • including 'comments and queries' or 'bouquets and brickbats' on all order forms • complaints handling procedures • email • letter • soliciting complaints • surveys of current clients • surveys of lapsed clients to determine reason/s for ceasing to buy • telephone interviews • training staff to ask open questions about product or service levels
<i>Business associations</i> may include:	<ul style="list-style-type: none"> • chambers of commerce • industry associations • institutes • professional bodies • societies
<i>Professional development activities</i> may include:	<ul style="list-style-type: none"> • demonstrations • exhibitions • fairs • industry information seminars • industry training • pre-launch activities • technical information briefings • trade shows
<i>Networks</i> may include:	<ul style="list-style-type: none"> • business • formal • groups • individuals • informal • organisations • personal
<i>Information and ideas</i> may include:	<ul style="list-style-type: none"> • changes in the environment • changing customer requirements • information on competitors' activities • personal, professional or business support

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Stakeholder Relations - Relationship Management
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Co-requisite units

Co-requisite units		

BSBSLS402A Identify sales prospects

Modification History

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to identify of potential sales prospects through application of prospecting methods.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

This unit describes the performance outcomes, skills and knowledge required to identify of potential sales prospects through application of prospecting methods.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

This unit applies to individuals in a sales related position in a small, medium or large enterprise across a wide variety of industries who identify and collate sales prospect information that can be used to generate leads. They may provide advice and support about aspects of sales solutions to support a sales team.

This unit applies to individuals in a sales related position in a small, medium or large enterprise across a wide variety of industries who identify and collate sales prospect information that can be used to generate leads. They may provide advice and support about aspects of sales solutions to support a sales team.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Employability Skills Information

This unit contains employability skills.

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Employ prospecting methods	1.1 Identify a range of prospecting methods
	1.2 Consider and evaluate the strengths and limitations of primary and secondary prospecting methods
	1.3 Select prospecting methods to match the market to which the product is targeted
	1.4 Target present, previous and new clients through chosen prospecting methods
2 Qualify prospects	2.1 Research and establish criteria for qualifying leads
	2.2 Ensure criteria are established according to buyer accessibility, buyer motives , product affordability, purchase authority, legal compliance and return for the seller
	2.3 Ensure the established criteria represent a standard against which the buying potential of individuals and groups is gauged
3 Manage prospect information	3.1 Develop a system to record prospect information
	3.2 Implement the system for recording prospect information
	3.3 Monitor the system for recording prospect information for effectiveness

- 3.4 Evaluate the system for recording prospect information
- 3.5 Refine the system for recording prospect information based on evaluation of system

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

literacy skills to interpret legal requirements, company policies and procedures

research and data analysis skills to determine prospect requirements

technology skills to design and record formats to facilitate information storage and retrieval.

Required knowledge

principles of buyer motives

identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:

anti-discrimination

ethical principles

consumer protection

contract law

privacy laws

Trade Practices Act

benefits and key features of own organisation's and competitors' products

information management strategies used to manage prospect data

prospecting methods used in the sales process.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- demonstration of the use and management of different prospecting methods targeting a present, previous and new client
- research and establishment of criteria used in qualifying leads identified through prospecting methods
- recording, storage and retrieval of prospect information.

Context of and specific resources for assessment

Assessment must ensure:

- access to an actual workplace or simulated environment
- access to organisational sales prospect information, databases and records.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- analysis of responses to case studies and scenarios
- assessment of criteria developed to qualify sales leads
- demonstration of prospecting methods
- direct questioning combined with portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- observation of use of prospecting methods
- oral or written questioning to assess knowledge of principles of buyer motives
- review of research undertaken to establish criteria for qualifying leads
- evaluation of the system developed to record prospect information.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

customer service units

other sales units.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Prospecting methods may include:

- brokers
- cold canvassing
- databases
- direct mail
- internet
- intra organisational leads
- journals
- magazines
- media advertising
- networking
- newspapers
- personal observation
- public records
- referrals
- spotters
- telemarketing

Products may include:

- goods
- ideas
- services

Clients may include:

- consumers
- customers
- members
- patients
- members of other business units within an organisation
- other work teams within an organisation
- person or organisation who receives or has the potential to receive products, services or ideas supplied by the organisation

Buyer motives may include:

browsing
buying for unqualified prospect e.g.
dependant
gift
housekeeping
replacement item
self reward
self-gratification

Unit Sector(s)

empty
empt

Competency field

Business Development - Sales
Business Development - Sales

BSBSLS404A Secure prospect commitment

Modification History

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to use sales processes associated with securing prospect commitment to proceed with a sale.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

This unit describes the performance outcomes, skills and knowledge required to use sales processes associated with securing prospect commitment to proceed with a sale.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

This unit applies to individuals in a sales related position in a small, medium or large enterprise across a wide variety of industries who secure a prospects commitment to purchase a product or service. They may contribute to securing prospect commitment individually or as a supporting member of a larger sales team.

This unit applies to individuals in a sales related position in a small, medium or large enterprise across a wide variety of industries who secure a prospects commitment to purchase a product or service. They may contribute to securing prospect commitment individually or as a supporting member of a larger sales team.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Employability Skills Information

This unit contains employability skills.

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Respond to buying signals	1.1 Identify verbal and non-verbal buying signals
	1.2 Assess verbal and non-verbal buying signals
	1.3 Make a decision as to whether to respond to a buying signal by initiating close of sale
	1.4 Utilise trial closes to assist the buyer to make decisions on minor points related to the product
	1.5 Use trial closes strategically during different stages of the sales process
2 Negotiate the sale	2.1 Initiate a formal close to the sales process following one or more trial closes
	2.2 Negotiate conditions of the agreement
	2.3 Assess a range of different strategies to close the sale
	2.4 Select a strategy to close the sale
	2.5 Utilise supportive and confirming language to support the closure of the sales process
	2.6 Describe and demonstrate options for simple sales transactions to match specified situations
	2.7 Respond to the prospect's decision to purchase in

an assertive manner

- 3 Finalise the agreement
 - 3.1 Outline a summary of the agreement to the buyer
 - 3.2 Confirm the buyer's decision
 - 3.3 Ensure process and completion of the sales transaction comply with organisational requirements
 - 3.4 Prepare and complete sales documents
 - 3.5 Ensure advice on financing arrangements is accurate, matches the buyer's financial situation, and complies with organisational requirements
 - 3.6 Identify and present cross selling opportunities to the buyer
 - 3.7 Express a desire to continue the sales relationship and conduct future sales transactions

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

conflict resolution skills to manage client dissatisfaction and criticism

customer service skills to determine client needs and preferences

interpersonal skills to develop rapport and build relationships with clients

literacy and numeracy skills to prepare sales documentation, process sales transactions and calculate financing arrangements.

Required knowledge

detailed product knowledge, including product:

advantages and disadvantages

features

service benefits

identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:

anti-discrimination

ethical principles

consumer protection

contract law

privacy laws

Trade Practices Act

principles of sales closure techniques.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- sales situations where the candidate clearly identifies and appropriately responds to buying signals before trialling closes, negotiating sale conditions and securing the sale
- knowledge of principles of sales closure techniques.

Context of and specific resources for assessment

Assessment must ensure:

- access to an actual workplace or simulated environment
- access to appropriate documentation and resources normally used in the workplace.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- analysis of responses to case studies and scenarios
- observations of interactions with prospects when securing commitment
- direct questioning combined with portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
- oral or written questioning to assess knowledge of verbal and non-verbal buying signals, trial closes, proposed sales solutions and ways to overcome buyer resistance
- observation of strategies used to secure a sale
- review of cross selling opportunities presented to the buyer
- review of completed sales documents
- assessment of advice provided on financing arrangements.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

BSBPRO401A Develop product knowledge

BSBSLS403A Present a sales solution

BSBSLS406A Self-manage sales performance.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Verbal buying signals may include:	confirmations questions statement of requirement by prospect
Non-verbal buying signals may include:	close examination of the product by the prospect moving closer to where a product is to be installed smiling and nodding
Trial closes may include:	question or paraphrase that focuses the interaction on a minor point related to sale of the product that might lead to closing the sale
Products may include:	goods ideas services
Formal close may include:	inducement narrative close request by the salesperson to the prospect to agree to purchase the product/service offering alternative choices summary of product benefits
Conditions may include:	client loyalty delivery length of contract payment options price

Unit Sector(s)

empty
empt

Competency field

Business Development - Sales
Business Development - Sales

BSBSLS405A Support post sale activities

Modification History

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to attend to post sale activities that build and strengthen the partnership between a salesperson and the client, and enhance the prospect of future sales.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

This unit describes the performance outcomes, skills and knowledge required to attend to post sale activities that build and strengthen the partnership between a salesperson and the client, and enhance the prospect of future sales.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

This unit applies to individuals in a sales related position across a wide variety of industries and enterprises who build post sale and long term relationships to establish an ongoing relationship with clients. They may provide advice and support about aspects of sales solutions to support a sales team.

This unit applies to individuals in a sales related position across a wide variety of industries and enterprises who build post sale and long term relationships to establish an ongoing relationship with clients. They may provide advice and support about aspects of sales solutions to support a sales team.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Employability Skills Information

This unit contains employability skills.

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Process order	<p>1.1 Record client order details in accordance with organisational policies and procedures</p> <p>1.2 Forward order for product to the relevant section of the organisation</p> <p>1.3 Monitor the processing of the order</p>
2 Deliver support to agreed expectations	<p>2.1 Provide technical assistance and/or advice in relation to the product purchased</p> <p>2.2 Handle defective returns in accordance with organisational requirements</p> <p>2.3 Provide information to facilitate product repair, support or servicing</p> <p>2.4 Provide liaison services to assist clients to access appropriate after-sales support</p>
3 Handle client feedback	<p>3.1 Clarify and confirm feedback with clients</p> <p>3.2 Determine client's needs and requirements</p> <p>3.3 Identify and evaluate possible responses to client feedback</p> <p>3.4 Respond to client needs and requirements in accordance with organisational policies and procedures</p>

- 3.5 Make contact with client to ensure the response is satisfactory
- 4 Strengthen client relationships
 - 4.1 Ensure contact is made with the buyer post-sale to ensure agreed expectations have been met
 - 4.2 Use **feedback solicitation methods** on the sales process and product satisfaction
 - 4.3 Identify, address and resolve service problems and difficulties identified through feedback
- 5 Offer additional benefits to clients
 - 5.1 Develop and implement **client loyalty strategies** to secure buyer loyalty and to facilitate ongoing contact
 - 5.2 Contact buyer regularly post-sale at an appropriate level to maintain relationship and to identify new sales and cross-selling opportunities
 - 5.3 Offer additional sales solutions and benefits to clients when opportunities arise

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

communication skills to determine client needs and preferences

data management skills to keep client sales records

interpersonal skills to establish effective working relationships with business units within an organisation

literacy skills to write sales reports

negotiation and conflict resolution skills to address client concerns and to handle client dissatisfaction

organisational and time management skills to schedule follow-up contacts

problem-solving skills to address and resolve service difficulties.

Required knowledge

detailed product knowledge which enables ongoing advice and support to clients

organisational policies and procedures relating to orders and client services

identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:

anti-discrimination

ethical principles

consumer protection

contract law

privacy laws

Trade Practices Act

strategies to manage client accounts, to build client goodwill and to develop client loyalty.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:
examples of the candidate contacting a buyer post-sale to collect feedback and resolve any problems or difficulties arising if appropriate organisational policies and procedures relating to orders and client services.

Context of and specific resources for assessment

Assessment must ensure:
access to an actual workplace or simulated environment
access to appropriate sales records and documentation.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

analysis of responses to case studies and scenarios

direct questioning combined with portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

observations of interactions with clients when conducting post-sales activities

oral or written questioning to assess knowledge of methods used to obtain client feedback, loyalty strategies used, how defective returns were handled and alternative responses to feedback received

review of sales records

evaluation of handling of defective returns

assessment of identifying and responding to client feedback.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

BSBSLS406A Self-manage sales
performance
other business development units.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Clients may include:

- customers
- consumers
- fellow work colleagues from other business units or work teams
- members
- patients
- person or organisation who receives products, services or ideas supplied by an organisation
- person or organisation who has the potential to receive products, services or ideas supplied by an organisation

Feedback solicitation methods may include:

- email dialogue
- focus groups
- one-on-one interviews
- surveys
- telephone interviews

Client loyalty strategies may include:

- client clubs
- client reward schemes
- credit or discount facilities
- formal letter of thanks
- handwritten note thanking the client
- offering promotional items
- phone call thanking the client for the business

Unit Sector(s)

empty

empt

Competency field

Business Development - Sales

Business Development - Sales

BSBSLS501A Develop a sales plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop a sales plan for a product or service for a team covering a specified sales territory based on strategic objectives and in accordance with established performance targets.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals working in a supervisory or managerial sales role who develop a sales plan for a product or service.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify organisational strategic direction	1.1. Obtain and analyse assessment of market needs and <i>strategic planning documents</i> 1.2. <i>Review previous sales performance</i> and successful approaches to identify factors affecting performance 1.3. Analyse information on market needs, new opportunities, customer profiles and requirements as a basis for decision making
2. Establish performance targets	2.1. Determine practical and achievable sales targets 2.2. Establish realistic time lines for achieving targets 2.3. Determine <i>measures to allow for monitoring</i> of performance 2.4. Ensure objectives of the sales plan and style of the campaign are consistent with organisational strategic objectives and corporate image
3. Develop a sales plan for a product	3.1. Describe approaches to be used to meet sales objectives 3.2. Identify <i>additional expertise</i> requirements and allocate budgetary resources accordingly 3.3. Identify risks and develop risk controls 3.4. Develop advertising and promotional strategy for <i>product</i> 3.5. Identify appropriate <i>distribution channels</i> for product 3.6. Prepare a budget for the sales plan 3.7. Present documented sales plan to appropriate personnel for approval
4. Identify support requirements	4.1. Identify and acquire staff resources to implement sales plan 4.2. Develop an appropriate <i>selling approach</i> 4.3. Train staff in the selling approach selected 4.4. Develop and assess staff knowledge of product to be sold
5. Monitor and review sales plan	5.1. Monitor implementation of the sales plan 5.2. Record data measuring performance versus sales targets 5.3. Make adjustments to sales plan as required to ensure required results are obtained

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and negotiation skills to determine sales needs, and to refine and modify sales plans in consultation with relevant organisational personnel
- creativity and innovation skills to develop and evaluate new sales approaches
- research and data collection skills to gather information to develop a sales plan.

Required knowledge

- identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:
 - anti-discrimination
 - ethical principles
 - consumer protection
 - contract law
 - privacy laws
 - Trade Practices Act
- industry, organisation, product
- methods for monitoring sales outcomes
- organisational strategic direction and objectives
- principles and techniques for selling
- statistical techniques for analysing sales and market trends.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of a sales plan for a product sold by an organisation • knowledge of organisational strategic direction and objectives.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • access to strategic planning and sales documents, data and information.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies • assessment of documented sales plans • demonstration of sales plan development techniques
Guidance information for assessment	

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Strategic planning documents</i> may include:	<ul style="list-style-type: none"> • company mission statement • financial records • industry trends • marketing trends • operations plan • product trends • strategic plan
<i>Reviewing previous sales performance</i> may include:	<ul style="list-style-type: none"> • analysis of sales history • consideration of related product strategies • evaluation of competitors' or other companies' approaches • innovative suggestions • marketing research
<i>Measures to allow for monitoring</i> may include:	<ul style="list-style-type: none"> • volume of sales • whether sales targets are met or not • progress towards targets • surveys of potential/existing/previous clients
<i>Additional expertise</i> may include:	<ul style="list-style-type: none"> • designers of materials and displays • media producers • advertising executives
<i>Products</i> may include:	<ul style="list-style-type: none"> • goods • ideas • services
<i>Distribution channels</i> may include:	<ul style="list-style-type: none"> • agents • brokers • industry associations
<i>Selling approach</i> may include:	<ul style="list-style-type: none"> • answers to frequently asked questions • introductory techniques • planned approaches • sales scripts • strategies for handling negative comments

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Business Development - Sales
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Co-requisite units

Co-requisite units		

BSBSMB301A Investigate micro business opportunities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop business ideas, and to investigate market needs and factors affecting potential markets.</p> <p>Specific legal requirements apply to the management of a micro business.</p>
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Application of the Unit

Application of the unit	<p>This work will be undertaken by individuals who are establishing or operating a micro business providing for self employment.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Describe business ideas	1.1. Gather information for <i>business ideas</i> from <i>appropriate sources</i> 1.2. List details of business ideas and opportunities 1.3. Research alternative business ideas in light of the resources available 1.4. Specify and list products and services to match business ideas 1.5. Identify and research potential <i>customer information</i> for business ideas 1.6. Identify and take into account financial, business and technical skills available when researching business opportunities
2. Identify market needs	2.1. Collect information regarding market size and potential from appropriate sources 2.2. Investigate market trends and developments to identify market needs relative to business ideas 2.3. Gather market information from <i>primary and secondary sources</i> to identify possible market needs in relation to business ideas 2.4. Identify <i>ethical and cultural requirements</i> of the market and their impact on business ideas 2.5. Identify <i>new and emerging markets</i> and document their features 2.6. Identify and organise information on expected market growth or decline and associated risk factors
3. Investigate factors affecting the market	3.1. Identify projected changes in population, economic activity and the labour force that may affect business ideas 3.2. Identify movements in prices and projected changes in availability of resources 3.3. Review <i>trends and developments</i> and identify their potential impact on business ideas

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify market trends and developments, and to assess their impact on products and services
- communication skills to request information from diverse sources
- lateral thinking skills to generate ideas for potential businesses
- literacy skills to interpret business and market information
- numeracy skills to analyse data to aid business/market research
- research skills to investigate market needs.

Required knowledge

- ethical and cultural requirements
- research methods and data collection tools
- sources of business and market information.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • thorough investigation of business opportunities and ideas • clearly identified products/services and customer information for each business idea • thorough collection and analysis of market information and associated factors relating to business ideas • knowledge of ethical and cultural requirements.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of establishing or running a micro business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence relating to the development of the candidate's own business idea • review of report on an existing micro or small business known to the candidate • oral or written questioning to assess knowledge of research methods and data collection tools • review of market information gathered to identify possible market needs in relation to business ideas • assessment of review of trends and developments and their potential impact on business ideas.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB302A Develop a micro business proposal.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Business ideas may be influenced by:

- amount and type of finance available
- cultural, family and/or community expectations
- expected financial viability
- finance required
- lifestyle sought
- number and type of competitors
- returns expected or required by owner
- skills of owner/operator

Appropriate sources may include:

- Aboriginal and cultural councils and incorporated bodies
- accountants
- Australian Bureau of Statistics
- business advisory services
- business brokers
- business consultants
- business incubators
- business mentors and peers
- current affairs
- databases
- financial institutions
- government agencies set up to provide and assist business development for example Indigenous Business Australia (IBA), Business Entry Point (www.business.gov.au)
- industry/trade associations
- internet
- lawyers and providers of legal advice
 - local councils
- friends, family and community
- market research publications
- national and international publications
- online gateways
- role models and other successful businesses

RANGE STATEMENT	
	<ul style="list-style-type: none"> • training providers
<i>Customer information</i> may include:	<ul style="list-style-type: none"> • customer characteristics • marketing issues to meet needs • specialised needs of customers
<i>Primary sources</i> may include:	<ul style="list-style-type: none"> • group interviews • market testing a segment of the market • interviews (face-to-face and telephone) • observation • questionnaires • samples • surveys
<i>Secondary sources</i> may include:	<ul style="list-style-type: none"> • chambers of commerce data • data held by research and industry specific organisations • polls published by advertising and media companies • published government statistics • university databases
<i>Ethical and cultural requirements</i> may include:	<ul style="list-style-type: none"> • codes of practice • cultural expectations and influences • ethical principles <ul style="list-style-type: none"> • government policies and guidelines • societal expectations • social responsibilities, for example protection of children, environmental issues
<i>New and emerging markets</i> may include:	<ul style="list-style-type: none"> • e-commerce • export market • niche or segment of the market not currently penetrated
<i>Trends and developments</i> may include:	<ul style="list-style-type: none"> • changes in technology • demographic trends • ecological/environmental trends • economic trends (local, regional, national, international) • government activities, for example interest rates, deregulation • industrial trends • social and cultural factors

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Small and Micro Business
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Co-requisite units

Co-requisite units		

BSBSMB402A Plan small business finances

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop a financial plan to support business viability.</p> <p>Specific legal requirements apply to the management of a small business.</p>
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Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>The unit is suitable for existing micro and small businesses or a department in a larger organisation.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify costs, calculate prices and prepare profit statement	1.1. Identify and document <i>costs</i> associated with the production and delivery of the business' products/services 1.2. Calculate prices based on costs and profit margin, as an hourly charge out rate for labour or unit price for products 1.3. Calculate break-even sales point to establish business viability and profit margins 1.4. Identify appropriate <i>pricing strategies</i> in relation to market conditions to meet business profit targets 1.5. Prepare projected profit statement to supplement the business plan
2. Develop a FINANCIAL PLAN	2.1. Set <i>profit targets/goals</i> to reflect owner's desired returns 2.2. Identify working capital requirements necessary to attain profit projections 2.3. Identify non-current asset requirements and consider alternative asset management strategies 2.4. Prepare <i>cash flow projections</i> to enable business operation in accordance with business plan and <i>legal requirements</i> 2.5. Identify capital investment requirements accurately for each operational period 2.6. Select budget targets to enable ongoing monitoring of financial performance
3. Acquire finance	3.1. Identify start-up and ongoing financial requirements according to financial plan/budget 3.2. Identify <i>sources of finance</i> , including potential <i>financial backers</i> , to provide required liquidity for the business to complement business goals and objectives 3.3. Investigate cost of securing finance on optimal terms 3.4. Identify strategies to obtain finance as required to ensure financial viability of the business

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to interpret financial data
- communication skills to secure finance
- literacy skills to develop a financial plan and to interpret legal requirements and financial reports
- numeracy skills to calculate costs, prices, profit and other financial information
- research skills to identify costs and sources of finance.

Required knowledge

- break-even analysis
- costing for the business, including margin/mark-up, hourly charge out rates and unit costs
- financial decision making relevant to the business
- methods and relative costs of obtaining finance
- principles for preparation of balance sheets
- principles for preparation of cash flow forecasts
- principles for preparation of profit and loss statements
- purpose of financial reports
- relevant accounting terminology
- working capital cycles.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> development of a financial plan which identifies the financial requirements of the business, including profit targets, cash flow projections and strategies for the acquisition of finance knowledge of financial decision making relevant to the business.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to relevant documentation candidate's individual circumstances and work in the context of establishing or running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> portfolio of evidence including financial plan and records review of projected profit statement prepared to supplement the business plan review of cash flow projections oral or written questioning to assess knowledge of principles for preparation of cash flow forecasts.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBSMB401A Establish legal and risk management requirements of small business BSBSMB404A Undertake small business planning BSBSMB405A Monitor and manage small business operations BSBSMB406A Manage small business finances.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Costs may include:

- direct/indirect costs
- fixed, variable, semi-variable costs
- overheads and employee costs

Pricing strategies may include:

- competitor analysis
- cost/volume/profit analysis
- cost factors
- cost plus pricing
- demand-based pricing
- discounting
- market conditions
- penetration pricing
- perceived value
- product mix
- skimming

Financial plan may include:

- analysis of sales by product/service, identifying where they were sold and to whom
- cash flow estimates for each forward period
- current financial state of the enterprise (or owner/operator)
- estimates of profit and loss projections for each forward period
- financial performance to date (if applicable)
- likely return on investment
- monthly, quarterly or annual returns
- non-recurrent assets calculations
- profit, turnover, capital and equity targets
- projected profit targets, pricing strategies, margins
- projections of likely financial results (budgeting)
- projections, which may vary depending on the importance of such information and the stage in the life of the business
- resources required to implement the proposed marketing and production strategies (staff,

RANGE STATEMENT	
	<ul style="list-style-type: none"> materials, plant and equipment) • review of financial inputs required (sources and forms of finance) • risks and measures to manage or minimise risks • working, fixed, debt and equity capital • working in conjunction with external consultants e.g. investment analysts, accountants, financiers
<i>Profit targets/goals</i> may include:	<ul style="list-style-type: none"> • break-even point • cost of goods/services sold • gross profit/net profit • desired actual/notional salary for owners/managers • desired return on investment • sales turnover/gross fees or income
<i>Cash flow projections</i> may include:	<ul style="list-style-type: none"> • anticipated payments • anticipated receipts • customer credit policy/debt recovery • taxation provisions
<i>Legal requirements</i> may include:	<ul style="list-style-type: none"> • contractual arrangements (partnership agreements, trust deeds) • corporations law • industrial law (for payroll records) • taxation law
<i>Sources of finance</i> may include:	<ul style="list-style-type: none"> • personal, financial institutions, trade/industry sources • government sources, for example commonwealth and state/territory governments which provide various forms of technical and financial assistance including direct cash grants, loans, subsidies, tax concessions, and professional and technical advice
<i>Financial backers</i> may include:	<ul style="list-style-type: none"> • financiers/banks/lending institutions • leasing and hire purchase financiers • providers of venture capital • shareholders/partners/owners/family/friends

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Small and Micro Business
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Co-requisite units

Co-requisite units		

BSBSMB403A Market the small business

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and implement marketing strategies, and to monitor and improve market performance.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>This unit is suitable for micro and small businesses or a department in a larger organisation.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop marketing strategies	1.1. Analyse the business and its key products or services to determine the focus of marketing activities, in accordance with the objectives of the business plan 1.2. Evaluate the customer base and target market for the small business as a basis for the marketing objectives and strategies 1.3. Determine marketing objectives and strategies that are ethically and culturally appropriate, in consultation with relevant people and in accordance with the business plan
2. Determine a marketing mix for the business	2.1. Balance product mix, volumes and pricing to optimise sales and profit 2.2. Evaluate the costs and benefits of using different distribution channels and/or providing different levels of customer service and consider the results in determining the marketing mix 2.3. Determine promotional activities to suit the target market 2.4. Consider customer needs and preferences in determining the marketing mix 2.5. Determine the marketing mix according to market and business needs
3. Implement marketing strategies	3.1. Brief persons involved in the marketing effort on their roles and responsibilities, to ensure the success of marketing strategies 3.2. Plan and implement promotional activities , in accordance with marketing objectives and budgetary requirements
4. Monitor and improve marketing performance	4.1. Monitor marketing activities and evaluate business performance according to the objectives and targets of the business plan 4.2. Analyse performance gaps and take corrective action or set new targets 4.3. Encourage all relevant people to propose ways to improve marketing performance 4.4. Seek and analyse customer reaction to all aspects of the marketing mix, using culturally appropriate processes, to improve targeting and outcomes 4.5. Conduct ongoing research of customer requirements to identify opportunities for change and

ELEMENT	PERFORMANCE CRITERIA
	improvement 4.6. Monitor and investigate changes in the market for new opportunities to aid business development

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to question, clarify and report
- literacy and numeracy skills to research information, to analyse data and to interpret market data.

Required knowledge

- industry market trends
- methods of analysing costs and benefits of marketing strategies
- methods of developing marketing objectives and marketing mix
- methods of monitoring customer satisfaction
- relevant market analysis and research
- relevant marketing concepts and methods.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • developing a marketing strategy and choosing a marketing mix for the small business that are culturally appropriate and that complement the business plan • implementing and monitoring the marketing strategy/plan to optimise the chances of small business success • knowledge of relevant marketing concepts and methods.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including marketing strategy and monitoring of marketing performance • oral or written questioning to assess knowledge of industry market trends • review of analysis of performance gaps and corrective action taken or new targets set • review of promotional activities implemented.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB404A Undertake small business planning.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Marketing objectives and strategies</i> may include:</p>	<ul style="list-style-type: none"> • achieving lower costs of production and distribution than competitors • creating a very different product line or service so that the business becomes a class leader in the industry • distribution • pricing, presentation and display of products/services • product design and packaging • product range and mix • promotion and advertising • pursuing cost leadership and/or product differentiation within a specialist market segment
<p><i>Relevant people</i> may include:</p>	<ul style="list-style-type: none"> • accountant or other specialist services • family members, work team members, sub-contractors, community members • franchise agency • financial backers, clients • owner/operator, partners, directors, shareholders • regulatory bodies • trade or industry associations
<p><i>Distribution channels</i> may include:</p>	<ul style="list-style-type: none"> • dealer, re-seller, franchisee • distributor, delivery service, mail order, telesales • self-access, wholesale, retail
<p><i>Levels of customer service</i> may include:</p>	<ul style="list-style-type: none"> • after sales service • one-on-one personal service • sales assistance for problems/queries only
<p><i>Marketing mix</i> may include:</p>	<ul style="list-style-type: none"> • distribution • level of service • pricing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • promotion • quality, range • safety features • technical features, design
<i>Promotional activities</i> may include:	<ul style="list-style-type: none"> • advertising in national, suburban or local newspapers • advertising on radio or television • canvassing • development of networks and strategic alliances • display posters • exhibitions, in-store promotions • involvement in community projects • mail drops • professional/industry journals • sponsorship • staff development programs to enhance customer service orientation • website • word of mouth, referral, testimonials
<i>Performance gaps</i> may include:	<ul style="list-style-type: none"> • over achievement of performance targets • under achievement of performance targets
<i>Customer reaction</i> may be determined through:	<ul style="list-style-type: none"> • customer meetings, focus groups • identification of new business opportunities • informal discussion • sales to contact ratio • survey/other feedback mechanisms • trend analysis

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Small and Micro Business
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Co-requisite units

Co-requisite units	

BSBSMB404A Undertake small business planning

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to research and develop an integrated business plan for achieving business goals and objectives.</p> <p>Specific legal requirements apply to the management of a small business.</p>
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Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>This unit is suitable for micro and small businesses or a department in a larger organisation.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify elements of the business plan	1.1. Identify purpose of the <i>business plan</i> 1.2. Identify and review the essential components of the business plan 1.3. Identify and document <i>business goals and objectives</i> as a basis for measuring business performance
2. Develop a business plan	2.1. Research resources, legal and compliance requirements, specifically in relation to <i>occupational health and safety (OHS)</i> , in accordance with business goals and objectives 2.2. Research market needs, and market size and potential 2.3. Identify sources and costs of finance, from the <i>financial plan</i> , to provide required liquidity and profitability for the business 2.4. Identify methods, from the <i>marketing strategies</i> , to promote the market exposure of the business 2.5. Identify methods/means of production/operation from the <i>production/operations plan</i> to conform with business goals and objectives 2.6. Identify <i>staffing requirements</i> to effectively produce/deliver products/services 2.7. Identify <i>specialist services</i> and sources of advice, where required, and cost in accordance with resources available
3. Develop strategies for minimising risks	3.1. Identify specific interests and objectives of <i>relevant people</i> and seek and confirm their support of the planned business direction 3.2. Identify and develop <i>risk management strategies</i> according to business goals and objectives, and relevant legal requirements 3.3. Develop <i>contingency plan</i> to address possible areas of non-conformance with the plan

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to assess business performance
- literacy skills to enable interpretation of business information
- numeracy skills to analyse data.

Required knowledge

- commonwealth, state/territory and local government legislative requirements relating to business operation, especially in regard to OHS and environmental issues, equal employment opportunity, industrial relations and anti-discrimination
- methods of evaluation
- OHS responsibilities and procedures for identifying hazards relevant to the business
- planning processes
- preparation of a business plan
- principles of risk management relevant to business planning
- reasons for and benefits of, business planning
- relevant industry codes of practice
- setting goals and objectives
- types of business planning - feasibility studies; strategic, operational, financial and marketing planning.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of a business plan which provides for finance, marketing and provision of products/services to facilitate the business goals and objectives • identification of and planning for, OHS and duty of care responsibilities • development of risk management strategies • knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including a business plan and risk management strategies • oral or written questioning to assess knowledge of OHS responsibilities and procedures for identifying hazards relevant to the business • demonstration of practical skills • review of documented business goals and objectives • review of contingency plans developed to address possible areas of non-conformance with the business plan.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB401A Establish legal and risk management requirements of small business • BSBSMB402A Plan small business finances • BSBSMB403A Market the small business.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Business plan</i> may include:</p>	<ul style="list-style-type: none"> • business opportunities, which may be influenced by: <ul style="list-style-type: none"> • amount and types of finance available • expected financial viability • skills of operator • details of ownership/management • finance, expenditure statement, balance sheet and cash flow forecast, projections for the initial years of operation assumptions underlying the business plan, expected level of inflation and taxation, expected trend of interest rate, capital expenditure and its timing, stock turnover, debtors collection period, creditor payment period, return on investment • level of risk involved, risk assessment and management • market focus of the business • marketing requirements • need to raise finance and requirements of lenders • organisation/operational arrangements • proposed size and scale of the business • recognition of any seasonal or cyclical (time-based) elements which are crucial to the success of the business • resources required and available • sources of funding • specialist services and sources of advice that may be required • staffing • stages in the business development
<p><i>Business goals and objectives</i> may include:</p>	<ul style="list-style-type: none"> • customer needs/marketing projections • family or community benefits

RANGE STATEMENT	
	<ul style="list-style-type: none"> • financial projections • goals, objectives, plans, systems and processes • lifestyle issues • market focus of the business • proposed size and scale of the business • short-, medium- or long-term goals • social responsibility
<i>Occupational health and safety issues</i> must include:	<ul style="list-style-type: none"> • identification of specific hazard issues such as occupational violence, security, manual handling, equipment and hazardous substances • management of the organisation and operation of OHS as part of the business plan • procedures for managing hazards in the workplace (identify, assess and control) • provisions for ensuring safety of members of the public and contractors visiting the premises/worksite
<i>Financial plan</i> may include:	<ul style="list-style-type: none"> • analysis of sales by product/service, identifying where they were sold and to whom • cash flow estimates for each forward period • current financial state of the enterprise (or owner/operator) • estimates of profit and loss projections for each forward period • financial performance to date (if applicable) • likely return on investment • monthly, quarterly or annual returns • non-recurrent assets calculations • profit, turnover, capital and equity targets • projected profit targets, pricing strategies, margins • projections of likely financial results (budgeting) • projections, which may vary depending on the importance of such information and the stage in the life of the business • resources required to implement the proposed marketing and production strategies (staff, materials, plant and equipment) • review of financial inputs required (sources

RANGE STATEMENT	
	<p>and forms of finance)</p> <ul style="list-style-type: none"> • risks and measures to manage or minimise risks • working, fixed, debt and equity capital
<i>Marketing strategies</i> may include:	<ul style="list-style-type: none"> • achieving lower costs of production and distribution than competitors • creating a very different product line or service so that the business becomes a class leader in the industry • distribution • pricing, presentation and display of products/services • product design and packaging • product range and mix • promotion and advertising • pursuing cost leadership and/or product differentiation within a specialist market segment
<i>Production/operations plan</i> may include:	<ul style="list-style-type: none"> • customer requirements, market expectations, budgetary constraints • industrial relations climate and quality assurance considerations • means of supply and distribution • operational targets and action plan, which may include short-, medium- or long-term goals • options for production, delivery, technical and customer service and support
<i>Staffing requirements</i> may include:	<ul style="list-style-type: none"> • full-time, part-time staff, permanent, temporary or casual staff • owner/operator • sub-contractors or external advisers/consultants
<i>Specialist services</i> may include:	<ul style="list-style-type: none"> • accountants • business advisors and consultants • business brokers • contractors • government agencies • industry/trade associations • lawyers and providers of legal advice • mentors

RANGE STATEMENT	
	<ul style="list-style-type: none"> • online gateways
<i>Relevant people</i> may include:	<ul style="list-style-type: none"> • clients • family members • franchise agency • owner/operator, partners, financial backers • regulatory bodies • suppliers • trade or industry associations
<i>Risk management strategies</i> may include:	<ul style="list-style-type: none"> • breach of contract, product liability • knowledge management • measures to manage risk including professional indemnity, securing appropriate insurance to cover loss of earnings through sickness/accidents, drought, flood, fire, theft • security systems to provide physical security of premises, plant, equipment, goods and services • security of intellectual property
<i>Risk management strategies</i> must include:	<ul style="list-style-type: none"> • OHS requirements
<i>Contingency plan</i> may include:	<ul style="list-style-type: none"> • disturbances to cash flow, supply and/or distribution • sickness or personal considerations

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Small and Micro Business
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Co-requisite units

Co-requisite units		

BSBSUS201A Participate in environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to effectively measure current resource use and to carry out improvements including reducing the negative environmental impact of work practices.</p> <p>This unit requires the ability to access industry information, and applicable legislative and occupational health and safety (OHS) guidelines.</p> <p>While no licensing, legislative, regulatory or certification requirements apply holistically to this unit at the time of publication, relevant national, state and territory legislation, regulations and codes of practice impact upon this unit.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to operators/team members under supervision or guidance, who are required to follow workplace procedures and instructions, and to work in an environmentally sustainable manner. It covers:</p> <ul style="list-style-type: none"> efficient resource use potential environmental hazards regulatory compliance improving environmental performance (within the scope of competency, authority and own level of responsibility). <p>It addresses the knowledge, processes and techniques necessary to participate in environmentally sustainable work practices.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify current resource use	1.1. Identify workplace <i>environmental and resource efficiency issues</i> 1.2. Identify resources used in own work role 1.3. Document and measure current usage of resources using <i>appropriate techniques</i> 1.4. Record and file documentation measuring current usage, using technology (such as software systems) where applicable 1.5. Identify and report workplace environmental hazards to appropriate personnel
2. Comply with environmental regulations	2.1. Follow workplace procedures to ensure <i>compliance</i> 2.2. Report breaches or potential breaches to appropriate personnel
3. Seek opportunities to improve resource efficiency	3.1. Follow <i>organisational plans</i> to improve environmental practices and resource efficiency 3.2. Work as part of a team, where relevant, to identify possible areas for improvements to work practices in own work area 3.3. Make <i>suggestions</i> for improvements to workplace practices in own work area

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to comply with all relevant legislation associated with job specifications and procedures
- communication and problem-solving skills to question, seek clarification and make suggestions relating to work requirements and efficiency
- communication and teamwork skills to recognise procedures; to follow instructions; to respond to change, such as current workplace environmental/sustainability frameworks; and to support team work and participation in a sustainable organisation
- literacy, numeracy and technology skills to interpret workplace information in relation to work role, and to document and measure resource use
- technology skills to select and use technology appropriate for a task.

Required knowledge

- environmental and resource hazards/risks
- environmental or sustainability legislation, regulations and codes of practice applicable to own work role
- OHS issues and requirements
- organisational structure, and reporting channels and procedures
- relevant environmental and resource efficiency systems and procedures
- sustainability in the workplace
- terms and conditions of employment including policies and procedures, such as daily tasks, employee and employer rights, equal opportunity.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> accessing, interpreting and complying with a range of environment/sustainability legislation and procedural requirements relevant to daily responsibilities accurately following organisational information to participate in and support an improved resource efficiency process and reporting as required developing and/or using tools such as inspection checklists, to collect and measure relevant information on organisation resource consumption, within work role identifying organisational improvements by applying efficient resource use to daily activities knowledge of environmental and resource hazards/risks.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to an actual workplace or simulated environment evidence is relevant to the particular workplace role, including work area, equipment, systems, and documentation review of current work area directly relating to own work, to assess measurement of resources used, hazards and compliance individual or team discussion about potential for increased resource efficiency within current work area access to workplace documents, information and resources (such as compliance obligations, enterprise plans, work responsibilities).
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace

EVIDENCE GUIDE	
	<p>reports of on-the-job performance by the candidate</p> <ul style="list-style-type: none"> • observation of demonstrated techniques over time and in a range of situations • analysis of responses to case studies and scenarios • review of documentation measuring current resource usage • evaluation of techniques used to document and measure current usage of resources • review of identified and reported workplace environmental hazards • evidence of active participation in organisational plans to improve environmental practices and resource efficiency.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBINN201A Contribute to workplace innovation • BSBSMB301A Investigate micro business opportunities • BSBWOR202A Organise and complete daily work activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Environmental and resource efficiency issues</i> may include:</p>	<ul style="list-style-type: none"> • maximising opportunities to improve business environmental performance • minimising environmental risks • promoting more efficient production and consumption of natural resources, for example minimising waste by participating in or using a waste management system • using resources efficiently such as material usage, energy usage (seeking alternative sources of energy or energy conservation) or efficient water usage
<p><i>Appropriate techniques</i> may include:</p>	<ul style="list-style-type: none"> • examining and documenting resources in work area • examining invoices from suppliers • examining relevant information and data • measuring resource usage under different conditions • reports from other parties involved in the process of identifying and implementing improvements
<p><i>Compliance</i> may include:</p>	<ul style="list-style-type: none"> • meeting relevant laws, by-laws and regulations or best practice to support compliance in environmental performance and sustainability at each level as required (such as Environmental Protection or Biodiversity Conservation Act): <ul style="list-style-type: none"> • international • commonwealth • state/territory • local government • industry • organisation
<p><i>Organisational plans</i> may</p>	<ul style="list-style-type: none"> • documented policies and procedures • work plans to minimise waste or to increase

RANGE STATEMENT	
include:	efficiency of resources such as a green office program, supply chain program for purchasing sustainable products or an environmental management framework
<i>Suggestions</i> may include ideas that help to:	<ul style="list-style-type: none"> • improve energy efficiency • increase use of renewable, recyclable, reusable and recoverable resources • maximise opportunities such as use of solar power or other alternative forms of energy, where appropriate • prevent and minimise risks • reduce emissions of greenhouse gases • reduce use of non-renewable resources

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Industry Capability - Sustainability
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Co-requisite units

Co-requisite units		

BSBSUS301A Implement and monitor environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to effectively analyse the workplace in relation to environmentally sustainable work practices and to implement improvements and monitor their effectiveness.</p> <p>This unit requires the ability to access industry information, applicable legislative and occupational health and safety (OHS) guidelines.</p> <p>While no licensing, legislative, regulatory or certification requirements apply holistically to this unit at the time of publication, relevant national, state and territory legislation, regulations and codes of practice impact upon this unit.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to those with responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools, such as:</p> <ul style="list-style-type: none"> • identifying areas for improvement • developing plans to make improvements • implementing and monitoring improvements in environmental performance. <p>A person who demonstrates competence in this unit must be able to provide evidence of the ability to implement and monitor integrated environmental and resource efficiency management policies and procedures within an organisation. Evidence must be strictly relevant to the particular workplace role.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Investigate current practices in relation to resource usage	1.1. Identify environmental regulations applying to the enterprise 1.2. Analyse procedures for assessing <i>compliance</i> with environmental/sustainability regulations 1.3. Collect information on environmental and resource efficiency systems and procedures, and provide to the work group where appropriate 1.4. Collect, analyse and organise information from a range of <i>sources</i> to provide information/advice and tools/resources for improvement opportunities 1.5. Measure and document current resource usage of members of the work group 1.6. Analyse and document current <i>purchasing strategies</i> 1.7. Analyse current work processes to access information and data to assist in identifying areas for improvement
2. Set targets for improvements	2.1. Seek input from <i>stakeholders, key personnel and specialists</i> 2.2. Access external sources of information and data as required 2.3. Evaluate alternative solutions to workplace environmental issues 2.4. Set efficiency targets
3. Implement performance improvement strategies	3.1. Source and use appropriate <i>techniques and tools</i> to assist in achieving efficiency targets 3.2. Apply continuous improvement strategies to own work area of responsibility, including ideas and possible solutions to communicate to the work group and management 3.3. Implement and integrate <i>environmental and resource efficiency improvement plans</i> for own work group with other operational activities 3.4. Supervise and support team members to identify possible areas for improved practices and resource efficiency in work area 3.5. Seek <i>suggestions</i> and ideas about environmental and resource efficiency management from stakeholders and act upon where appropriate 3.6. Implement costing strategies to fully value

ELEMENT	PERFORMANCE CRITERIA
	environmental assets
4. Monitor performance	4.1. Use and/or develop evaluation and monitoring, tools and technology 4.2. Document and communicate outcomes to report on efficiency targets to key personnel and stakeholders 4.3. Evaluate strategies and improvement plans 4.4. Set new efficiency targets, and investigate and apply new tools and strategies 4.5. Promote successful strategies and reward participants where possible

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to analyse problems, to devise solutions and to reflect on approaches taken
- change management skills
- communication skills to answer questions, clarify and acknowledge suggestions relating to work requirements and efficiency
- communication/consultation skills to support information flow from stakeholders to the work group
- innovation skills to identify improvements, to apply knowledge about resource use to organisational activities and to develop tools
- literacy skills to comprehend documentation, to interpret environmental and energy efficiency requirements, to create tools to measure and monitor improvements and to report outcomes
- numeracy skills to analyse data on organisational resource consumption and waste product volumes
- planning and organising skills to implement environmental and energy efficiency management policies and procedures relevant to own work area
- problem-solving skills to devise approaches to improved environmental sustainability and to develop alternative approaches as required
- technology skills to operate and shut down equipment; where relevant, to use software systems for recording and filing documentation to measure current usage; and to use word processing and other basic software for interpreting charts, flowcharts, graphs and other visual data and information
- supervisory skills to work effectively with a team

Required knowledge

- best practice approaches relevant to own area of responsibility and industry
- compliance requirements within work area for all relevant environmental/sustainability legislation, regulations and codes of practice including resource hazards/risks associated with work area, job specifications and procedures
- environmental and energy efficiency issues, systems and procedures specific to industry practice
- external benchmarks and support for particular benchmarks to be used within organisation, including approaches to improving resource use for work area and expected outcomes
- OHS issues and requirements
- organisational structure and reporting channels and procedures
- quality assurance systems relevant to own work area
- strategies to maximise opportunities and to minimise impact relevant to own work

REQUIRED SKILLS AND KNOWLEDGE

area

- supply chain procedures
- terms and conditions of employment including policies and procedures, such as daily tasks, work area responsibilities, employee, supervisor and employer rights, equal opportunity

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • knowledge of relevant compliance requirements within work area • developing plans to make improvements • planning and organising work group activities in relation to measuring current use and devising strategies to improve usage • monitoring resource use and improvements for environmental performance relative to work area and supervision • ensuring appropriate action is taken within work area in relation to environmental/sustainability compliance and potential hazards • implementing new approaches to work area in an effort to resolve and improve environmental and resource efficiency issues and reporting as required.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to a range of environment/sustainability legislation, standards, guidelines and procedural requirements relevant to specific work area, daily responsibilities and supervision • access to a range of information, workplace documentation and resources such as compliance obligations, organisation plans, work supervision and responsibilities • access to reports from other parties involved in the process of identifying and implementing improvements • evidence is relevant to the particular workplace role, including work area, staff, stakeholders, equipment, systems and documentation.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples

EVIDENCE GUIDE	
	<p>are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • response to case studies • review of reports of activities of work group in relation to measuring resource use and developing improvement strategies • review of work plans outlining approaches to improved practices with documented benchmarks • analysis of the way in which advice is sought and suggestions are made about improvements • observation over time and in a range of situations in relation to review of overall work area and staff, to assess and measure resource use, hazards and compliance • review of checklists to identify and assess resource usage at the beginning and end of the unit; reports on meetings around procedures and improvement processes and monitoring within the workplace; lists of environmental hazards/risks or inefficiencies or opportunities for improvements identified in the workplace • analysis of implementation of programs such as a green office program, supply chain program for purchasing sustainable products, or an environmental management framework • oral or written questioning to assess knowledge of environmental and energy efficiency issues, systems and procedures specific to industry practice.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBATSIC411C Communicate with the community • BSBINN301A Promote innovation in a team environment • BSBLED401A Develop teams and individuals • BSBMGT402A Implement operational plan • BSBMGT403A Implement continuous improvement • BSBRSK401A Identify risk and apply risk management processes.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Compliance</i> may include:</p>	<ul style="list-style-type: none"> • meeting relevant laws, by-laws and regulations or best practice or codes of practice to support compliance in environmental performance and sustainability at each level as required (such as Environmental Protection or Biodiversity Conservation Act): <ul style="list-style-type: none"> • international • commonwealth • state/territory • industry • organisation.
<p><i>Sources</i> may include:</p>	<ul style="list-style-type: none"> • organisation specifications • regulatory sources • relevant stakeholders • resource use.
<p><i>Purchasing strategies</i> may include:</p>	<ul style="list-style-type: none"> • influencing suppliers to take up environmental sustainability approaches • researching and participating in programs such as a supply chain program to purchase sustainable products.
<p><i>Stakeholders, key personnel and specialists</i> may include:</p>	<ul style="list-style-type: none"> • individuals and groups both inside and outside the organisation who have direct or indirect interest in the organisation's conduct, actions, products and services, including: <ul style="list-style-type: none"> • customers • employees at all levels of the organisation • government • investors • local community • other organisations • suppliers • key personnel within the organisation, and specialists outside the organisation who may

RANGE STATEMENT	
	have particular technical expertise.
<i>Techniques and tools</i> may include:	<ul style="list-style-type: none"> • examination of invoices from suppliers • examination of relevant information and data • measurements made under different conditions • others as appropriate to the specific industry context.
<i>Environmental and resource efficiency improvement plans</i> may include:	<ul style="list-style-type: none"> • addressing environmental and resource sustainability initiatives such as environmental management systems, action plans, green office programs, surveys and audits • applying the waste management hierarchy in the workplace • determining organisation's most appropriate waste treatment including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment • initiating and/or maintaining appropriate organisational procedures for operational energy consumption, including stationary energy and non-stationary (transport) • preventing and minimising risks, and maximising opportunities such as: <ul style="list-style-type: none"> • improving resource/energy efficiency • reducing emissions of greenhouse gases • reducing use of non-renewable resources • referencing standards, guidelines and approaches such as: <ul style="list-style-type: none"> • ecological footprinting • Energy Efficiency Opportunities Bill 2005 • Global Reporting Initiative • green office program - a cultural change program • green purchasing • Greenhouse Challenge Plus (Australian government initiative) • ISO 14001:1996 Environmental management systems life cycle analyses • product stewardship • supply chain management • sustainability covenants/compacts • triple bottom line reporting.

RANGE STATEMENT

Suggestions may include ideas that help to:

- prevent and minimise risks and maximise opportunities such as:
 - usage of solar or renewable energies where appropriate
 - reducing emissions of greenhouse gases
 - reducing use of non-renewable resources
 - making more efficient use of resources, energy and water
- maximising opportunities to re-use, recycle and reclaim materials
- identifying strategies to offset or mitigate environmental impacts:
 - purchasing carbon credits
 - energy conservation
 - reducing chemical use
 - reducing material consumption
- expressing purchasing power through the selection of suppliers with improved environmental performance e.g. purchasing renewable energy
- eliminating the use of hazardous and toxic materials.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Industry Capability - Sustainability
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Co-requisite units

Co-requisite units		

BSBSUS501A Develop workplace policy and procedures for sustainability

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and implement a workplace sustainability policy, including the modification of the policy to suit changed circumstances.</p> <p>This unit requires the ability to access industry information, applicable legislative and occupational health and safety (OHS) guidelines.</p> <p>While no licensing, legislative, regulatory or certification requirements apply holistically to this unit at the time of publication, relevant national, state and territory legislation, regulations and codes of practice impact upon this unit.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>This unit addresses the knowledge, processes and techniques necessary to develop approaches to sustainability within workplaces, including the development and implementation of policy.</p> <p>This unit applies to people with managerial responsibility who undertake work developing approaches to create strategies within workplaces, including the development and implementation of policy and includes:</p> <ul style="list-style-type: none"> • communicating with relevant stakeholders • developing and monitoring policies • reviewing and improving policies. <p>A person who demonstrates competence in this unit must be able to provide evidence of the ability to develop and implement integrated sustainability policies and procedures within an enterprise. The review of the policy after implementation will also need to be evidenced.</p> <p>The context of the unit applies to all sectors of the business industry; it may be applied to all sections of an organisation, including the office, the factory floor, or work area. With such a broad application, the unit will need to be contextualised as it is applied across an organisation and across different industry sectors.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop workplace sustainability policy	1.1. Define <i>scope</i> of sustainability policy 1.2. Gather information from a range of <i>sources</i> to plan and develop policy 1.3. Identify and consult <i>stakeholders</i> as a key component of the policy development process 1.4. Include appropriate <i>strategies</i> in policy at all stages of work for minimising resource use, reducing toxic material and hazardous chemical use, and employing life cycle management approaches 1.5. Make recommendations for policy options based on likely effectiveness, timeframes and cost 1.6. Develop policy that reflects the organisation's commitment to sustainability as an integral part of business planning and as a business opportunity 1.7. Agree to appropriate methods of implementation
2. Communicate workplace sustainability policy	2.1. Promote workplace sustainability policy, including its expected outcome to key stakeholders 2.2. Inform those involved in implementing the policy as to outcomes expected, activities to be undertaken and responsibilities assigned
3. Implement workplace sustainability policy	3.1. Develop and communicate procedures to help implement workplace sustainability policy 3.2. Implement strategies for continuous improvement in resource efficiency 3.3. Establish and assign responsibility to use recording systems for tracking continuous improvements in sustainability approaches
4. Review workplace sustainability policy implementation	4.1. Document outcomes and provide feedback to key personnel and stakeholders 4.2. Investigate successes or otherwise of policy 4.3. Monitor records to identify trends that may require remedial action and use to promote continuous improvement of performance 4.4. Modify policy and or procedures as required to ensure improvements are made

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to adjust communication to suit different audiences; to respond effectively to diversity; to work as a member of a team to consult on and validate policy
- literacy skills to read and evaluate complex and formal documents such as policy and legislation
- problem skills to effectively manage different points of view and dissenting stakeholders
- research, analytical and writing skills to research, analyse and present information; to prepare written reports requiring precision of expression and language and structures suited to the intended audience

Required knowledge

- best practice approaches relevant to own work area
- environmental or sustainability legislation, regulations and codes of practice applicable to industry and organisation
- equal employment opportunity, equity and diversity principles and occupational health and safety implications of policy being developed
- policy development processes and practices
- principles, practices and available tools and techniques of sustainability management relevant to the particular industry context
- quality assurance systems relevant to own organisation
- relevant industry competency
- relevant organisational policies, procedures and protocols
- relevant systems and procedures to aid in the achievement of workplace sustainability

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- candidate's involvement as a key person in planning, developing and implementing organisational policy and that the developed policy complies with legislative requirements
- implementation strategy, as part of the policy, that has been devised, implemented and reviewed showing a measurable improvement utilising the chosen benchmark indicators
- communicating with stakeholders to discuss possible approaches to policy development and implementation, and contributing to the resolution of disputes among stakeholders
- developing and monitoring policies for analysing data on enterprise resource consumption
- using software systems for recording and filing documentation for measurement of current usage and using word processing and other basic software for interpreting charts, flowcharts, graphs and other visual data and information
- reviewing and improving policies by identifying improvements and benchmarking against industry best practice and attempting new approaches continuously over time.

Context of and specific resources for assessment

Assessment must ensure:

- access to an actual workplace or simulated environment
- access to relevant legislation/standards/guidelines
- access to a range of workplace documentation and personnel, information and resources (such as compliance obligations, organisational plans, work responsibilities)
- access to reports from other parties involved in the development and implementation of policy
- evidence is collected over time, involving both

EVIDENCE GUIDE	
	<p>formative and summative assessment</p> <ul style="list-style-type: none"> evidence is relevant to the particular workplace role, including work area, equipment, systems, and documentation.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on the job performance by the candidate response to case studies review of policy developed and procedural documentation outlining the approach taken review of implementation strategy, plans and work plans analysis of methods used to involve stakeholders in policy development, implementation and review analysis of inefficiencies or opportunities for improvements identified in the workplace evaluation of participation in sustainability work practices and programs such as an environmental management framework observation over time in relation to review of work area relating to policy and procedures being developed to assess measurement of resources used, hazards and compliance.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBATSIM419A Contribute to the development and implementation of organisational policies BSBHRM506A Manage recruitment, selection and induction processes BSBHRM602B Manage human resources strategic planning BSBINN502A Build and sustain an innovative work environment BSBMGT515A Manage operational plan BSBMGT516C Facilitate continuous improvement BSBMGT608C Manage innovation and continuous improvement BSBMGT616A Develop and implement strategic

EVIDENCE GUIDE	
	<p>plans</p> <ul style="list-style-type: none">• BSBMGT617A Develop and implement a business plan• BSBRSK501A Manage risk.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Scope of workplace sustainability policy may include:

- addressing sustainability initiatives through reference to standards, guidelines and approaches such as:
 - ecological foot printing
 - Energy Efficiency Opportunities Bill 20051
 - Global Reporting Initiative
 - green office program
 - green purchasing
 - Greenhouse Challenge Plus (Australian government initiative)
 - ISO 14001:1996 Environmental management systems life cycle analyses
 - life cycle analyses
 - product stewardship
 - supply chain management
 - sustainability covenants/compacts
 - triple bottom line reporting
- integrated approach to sustainability which includes environmental, economic and social aspects, or a specific approach that focuses on each aspect individually
- investigating particular business and market context of the industry/organisation
- meeting relevant laws, by laws and regulations or best practice to support compliance in environmental performance and sustainability at each level as required (such as Environmental Protection or Biodiversity Conservation Act):
 - international
 - commonwealth
 - state/territory
 - industry

RANGE STATEMENT	
	<ul style="list-style-type: none"> • organisation • parts of the organisation to which it is to apply, including whether it is for the whole organisation, one site, one work area or a combination of these.
<i>Sources</i> may include:	<ul style="list-style-type: none"> • regulatory sources • relevant personnel • organisational specifications.
<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • individuals and groups both inside and outside the organisation who have some direct interest in the organisation's conduct, actions, products and services, including: <ul style="list-style-type: none"> • customers • employees at all levels of the organisation • government • investors • local community • other organisations • regulators • suppliers • key personnel within the organisation and specialists outside the organisation who may have particular technical expertise.
<i>Strategies</i> may include:	<ul style="list-style-type: none"> • promotional activities • raising awareness among stakeholders • training staff in sustainability principles and techniques.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Industry Capability - Sustainability
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Co-requisite units

Co-requisite units		

BSBWOR301B Organise personal work priorities and development

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i></p> <p>Revised unit. Performance criteria and required skills updated to focus on learning and development practices, KPIs and compliance with policy and procedures.</p> <p>Replaces BSBWOR301A Organise personal work priorities and development</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to organise own work schedules, to monitor and obtain feedback on work performance, and to maintain required levels of competence. Operators may exercise discretion and judgement using appropriate theoretical knowledge of work scheduling and performance improvement to provide technical advice and support to a team.

Application of the Unit

This unit applies to individuals who are skilled operators and apply a broad range of competencies in various work contexts.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

<p>1. Organise and complete own work schedule</p>	<p>1.1 Ensure that <i>work goals, objectives</i> or <i>KPIs</i> are understood, negotiated and agreed in accordance with <i>organisational requirements</i></p> <p>1.2 Assess and prioritise workload to ensure tasks are completed within identified timeframes</p> <p>1.3 Identify <i>factors affecting the achievement of work objectives</i> and incorporate contingencies into work plans</p> <p>1.4 Use <i>business technology</i> efficiently and effectively to manage and monitor scheduling and completion of tasks</p>
<p>2. Monitor own work performance</p>	<p>2.1 Accurately monitor and adjust personal work performance through self-assessment to ensure achievement of tasks and compliance with legislation and work processes or KPIs</p> <p>2.2 Ensure that <i>feedback on performance</i> is actively sought and evaluated from colleagues and clients in the context of individual and group requirements</p> <p>2.3 Routinely identify and report on variations in the quality of and <i>products and services</i> according to organisational requirements</p> <p>2.4 Identify <i>signs of stress</i> and effects on <i>personal wellbeing</i></p> <p>2.5 Identify <i>sources of stress</i> and access appropriate <i>supports and resolution strategies</i></p>
<p>3. Coordinate personal skill development and learning</p>	<p>3.1 Identify personal learning and professional development needs and skill gaps using self-assessment and advice from colleagues and clients in relation to role and organisational requirements</p> <p>3.2 Identify, prioritise and plan opportunities for undertaking personal skill development activities in liaison with work groups and relevant personnel</p> <p>3.3 Access, complete and record <i>professional development opportunities</i> to facilitate continuous learning and career development</p> <p>3.4 Incorporate formal and informal feedback into review of further learning needs</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to give and receive constructive feedback relating to development needs
- literacy skills to read and understand the organisation's procedures
- planning skills to organise work priorities according to work goals and objectives
- problem-solving skills to solve routine problems
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety (OHS)
- organisational policies, plans and procedures
- methods to elicit, analyse and interpret feedback
- principles and techniques of goal setting, measuring performance, time management and personal assessment
- competency standards and how to interpret them in relation to self
- methods to identify and prioritise personal learning needs.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • preparing work plans • scheduling and prioritising work objectives and tasks • knowledge of the principles and techniques of goal setting, measuring performance, time management and personal assessment.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of work schedules and performance improvement plans.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of self-assessment documentation outlining learning and development needs • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of methods to identify and prioritise personal learning needs • evaluation of planning for personal skill development activities and professional development opportunities.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Work goals and objectives</i> may include:</p>	<ul style="list-style-type: none"> • budgetary targets • production targets • reporting deadlines • sales targets • team and individual learning goals • team participation.
<p><i>KPIs</i> may include:</p>	<ul style="list-style-type: none"> • key performance indicators on customer satisfaction • key performance indicators on customer effort • monitoring time taken to answer calls • operating within reporting protocols • score tools such as net promoter • understanding metrics.
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practice • business and performance plans • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals.
<p><i>Factors affecting the achievement of work objectives</i> may include:</p>	<ul style="list-style-type: none"> • budget constraints • competing work demands • environmental factors such as time, weather • resource and materials availability • technology/equipment breakdowns • unforeseen incidents • workplace hazards, risks and controls.
<p><i>Business technology</i> may include:</p>	<ul style="list-style-type: none"> • computer applications • computers • email • facsimile machines

	<ul style="list-style-type: none"> • internet/extranet/intranet • modems • personal schedulers • photocopiers • printers • scanners.
Feedback on performance may include:	<ul style="list-style-type: none"> • formal/informal performance appraisals • obtaining feedback from clients • obtaining feedback from supervisors and colleagues • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery.
Products and services may include:	<ul style="list-style-type: none"> • either products or services • goods • ideas • infrastructure • private or public sets of benefits.
Signs of stress may include:	<ul style="list-style-type: none"> • absence from work • alcohol or other substance abuse • conflict • poor work performance.
Personal wellbeing may include:	<ul style="list-style-type: none"> • cultural • emotional • social • spiritual.
Sources of stress may include:	<ul style="list-style-type: none"> • complex tasks • cultural issues • work and family conflict • workloads.
Supports and resolution strategies may include:	<ul style="list-style-type: none"> • awareness raising • counselling • employee assistance programs (EAP) • family support • group activities • job design • mediation • sharing load • time off • training.
Professional development opportunities may include:	<ul style="list-style-type: none"> • career planning/development • coaching, mentoring and/or supervision

	<ul style="list-style-type: none">• formal/informal learning programs• internal/external training provision• performance appraisals• personal study• quality assurance assessments and recommendations• recognition of current competence/skills recognition• work experience/exchange/opportunities• workplace skills assessment.
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Unit Sector(s)

Industry Capability – Workplace Effectiveness

Custom Content Section

Not applicable.

BSBWOR402A Promote team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to promote teamwork. It involves developing team plans to meet expected outcomes, leading the work team, and proactively working with the management of the organisation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>Frontline managers have an important leadership role in the development of efficient and effective work teams. They play a prominent part in team planning, supervising the performance of the team and developing team cohesion. They provide leadership for the team and bridge the gap between the management of the organisation and the team members. As such they must 'manage up' as well as manage their team/s.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan to achieve team outcomes	1.1. Identify, establish and document team purpose, roles, responsibilities, goals, plans and objectives in consultation with team members 1.2. Support team members in meeting expected outcomes
2. Develop team cohesion	2.1. Provide opportunities for input of team members into planning, decision making and operational aspects of work team 2.2. Encourage and support team members to take responsibility for own work and to assist each other in undertaking required roles and responsibilities 2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4. Recognise and address issues, concerns and problems identified by team members or refer to relevant persons as required
3. Participate in and facilitate work team	3.1. Actively encourage team members to participate in and take responsibility for team activities and communication processes 3.2. Give the team support to identify and resolve problems which impede its performance 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image within the work team, the organisation and with clients/customers
4. Liaise with management	4.1. Maintain open communication with line manager/management at all times 4.2. Communicate information from line manager/management to the team 4.3. Communicate unresolved issues, concerns and problems raised by the team/team members to line manager/management and ensure follow-up action is taken 4.4. Communicate unresolved issues, concerns and problems related to the team/team members raised by line managers/management to the team and ensure follow-up to action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - boost team morale
 - deal with team conflict
 - deliver messages from management
 - facilitate discussion
 - mentor and coach
- leadership skills
- planning and organising skills.

Required knowledge

- organisational goals, objectives and plans
- organisational policy and procedures framework
- organisational structure, including organisational chart
- principles and techniques associated with:
 - delegation and work allocation
 - goal setting
 - group dynamics and processes
 - individual behaviour and difference
 - leadership
 - motivation
 - negotiation
 - planning.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> teamwork plan with details of how it was generated and how it will be monitored so that team goals can be met techniques in communicating information, dealing with team conflict and resolving issues knowledge of organisational goals, objectives and plans.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> analysis of responses to case studies and scenarios direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate observation of demonstrated techniques in working with team dynamics observation of performance in role plays oral or written questioning to assess knowledge of principles and techniques associated with group dynamics and processes evaluation of opportunities provided for input of team members into planning, decision making and operational aspects of work team review of feedback provided to team members review of teamwork plan.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> other units from the Certificate IV in Frontline

EVIDENCE GUIDE	
	Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Team purpose, roles, responsibilities, goals, plans and objectives</i> may include:</p>	<ul style="list-style-type: none"> • action plans, business plans and operational plans linked to strategic plans • expected outcomes and outputs • goals for individuals and the work team • individual and team performance plans and key performance indicators • occupational health and safety (OHS) responsibilities
<p><i>Consultation</i> may include:</p>	<ul style="list-style-type: none"> • attending meetings, interviews, brainstorming sessions • using email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual effectiveness • using mechanisms to provide feedback to the work team in relation to consultation outcomes
<p><i>Responsibility for own work</i> may involve:</p>	<ul style="list-style-type: none"> • individual and joint actions • individuals and teams
<p><i>Feedback</i> may refer to:</p>	<ul style="list-style-type: none"> • formal/informal gatherings between team members where there is communication on work related matters • informal communication of ideas and thoughts on specific tasks, outcomes, decisions, issues or behaviours
<p><i>Relevant persons</i> may include:</p>	<ul style="list-style-type: none"> • colleagues • direct superior or other management representatives • OHS committees and other people with specialist responsibilities
<p><i>Communication</i> may include:</p>	<ul style="list-style-type: none"> • face-to-face • formal/informal interaction

RANGE STATEMENT	
	<ul style="list-style-type: none"> • verbal, written or electronic communication
<i>Line manager/management</i> may refer to:	<ul style="list-style-type: none"> • direct superior or other management representatives

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units		

BSBWOR404B Develop work priorities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to plan one's own work schedules, to monitor and to obtain feedback on work performance and development. It also addresses the requirement to take responsibility for one's own career planning and professional development.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to individuals who are required to design their own work schedules and work plans, and to establish priorities for their work. They will typically hold some responsibilities for the work of others and have some autonomy in relation to their own role.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and complete own work schedule	1.1. Prepare Workgroup plans which reflect consideration of resources, client needs and workgroup targets 1.2. Analyse and incorporate Work objectives and priorities into personal schedules and responsibilities 1.3. Identify Factors affecting the achievement of work objectives and establish contingencies and incorporate them into work plans 1.4. Efficiently and effectively use Business technology to manage and monitor planning completion and scheduling of tasks
2. Monitor own work performance	2.1. Identify and analysed personal performance through self-assessment and feedback from others on the achievement of work objectives 2.2. Seek and evaluate Feedback on performance from colleagues and clients in the context of individual and group requirements 2.3. Routinely identify and report on variations in the quality of service and performance in accordance with organisational requirements
3. Coordinate professional development	3.1. Assess personal knowledge and skills against organisational benchmarks to determine development needs and priorities 3.2. Research and identify sources and plan for opportunities for improvement in consultation with colleagues 3.3. Use Feedback to identify and develop ways to improve competence within available opportunities 3.4. Identify, access and complete professional development activities to assist career development 3.5. Store and maintain records and documents relating to achievements and assessments in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- learning skills to recognise and develop new and necessary skills and knowledge
- literacy skills to understand the organisation's policies, procedures and communications, to write personal work plans and professional development plans, and to request and receive feedback about performance
- organising skills to prioritise, manage time and meet deadlines
- problem solving skills to develop contingency plans

Required knowledge

- knowledge of relevant business technology applications to schedule tasks and plan work
- knowledge of techniques to prepare personal plans and establish priorities
- methods to identify and prioritise personal learning needs
- understanding of a range of professional development options
- understanding of methods to elicit, analyse and interpret feedback
- understanding of methods to evaluate own performance

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • preparing and communicating own work plan • scheduling work objectives and tasks to support the achievement of goals • seeking and acting on feedback from clients and colleagues • reviewing own work performance against achievements through self-assessment • accessing learning opportunities to extend own personal work competencies • using business technology to monitor self development.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • the learner and trainer should have access to appropriate documentation and resources normally used in the workplace
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • review of work and professional development plans.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • Other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Workgroup plans</i> may include:	<ul style="list-style-type: none"> • budgetary plans • production plans • reporting plans • sales plans • team and individual learning goals • team participation • work schedules
<i>Work objectives</i> may include:	<ul style="list-style-type: none"> • budgetary targets • production targets • reporting deadlines • sales targets • team and individual learning goals • team participation
<i>Factors affecting the achievement of work objectives</i> may include:	<ul style="list-style-type: none"> • budget constraints • competing work demands • environmental factors such as time, weather, etc • personnel • resource and materials availability • technology/equipment breakdowns • unforeseen incidents
<i>Business technology</i> may include:	<ul style="list-style-type: none"> • computer applications • computers • email and internet/intranet/extranet • facsimile machines • modems • personal schedules • photocopiers • printers • scanners
<i>Feedback on performance</i> may include:	<ul style="list-style-type: none"> • formal/informal performance appraisals • obtaining comments from clients • obtaining comments from supervisors and

RANGE STATEMENT	
	colleagues <ul style="list-style-type: none"> • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery
<i>Professional development activities</i> may include:	<ul style="list-style-type: none"> • career planning/development • coaching, mentoring and/or supervision • formal/informal learning programs • internal/external training provision • performance appraisals • personal study • Recognition of Prior Learning • work experience/exchange/opportunities • workplace skills assessment

Unit Sector(s)

Unit sector	
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ELEMENT	PERFORMANCE CRITERIA

Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units	

BSBWOR501B Manage personal work priorities and professional development

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage own performance and professional development. Particular emphasis is on setting and meeting priorities, analysing information and using a range of strategies to develop further competence.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to managers and focuses on the need for managers to be organised, focussed and skilled, in order to effectively manage the work of others. As such it is an important unit for most managers, particularly as managers serve as role models and have a significant influence on the work culture and patterns of behaviour.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish personal work goals	1.1. Serve as a positive role model in the workplace through personal work planning and organisation 1.2. Ensure personal work goals, plans and activities reflect the organisation's plans, and <i>own responsibilities and accountabilities</i> 1.3. Measure and maintain personal performance in varying work conditions, work contexts and contingencies
2. Set and meet own work priorities	2.1. Take initiative to prioritise and facilitate competing demands to achieve personal, team and organisational goals and objectives 2.2. Use <i>technology</i> efficiently and effectively to manage work priorities and commitments 2.3. Maintain appropriate work-life balance, and ensure stress is effectively managed and health is attended to
3. Develop and maintain professional competence	3.1. Assess personal knowledge and skills against <i>competency standards</i> to determine development needs, priorities and plans 3.2. Seek feedback from employees, <i>clients and colleagues</i> and use this feedback to identify and develop ways to improve competence 3.3. Identify, evaluate, select and use <i>development opportunities</i> suitable to personal learning style/s to develop competence 3.4. Undertake participation in networks to enhance personal knowledge, skills and work relationships 3.5. Identify and develop new skills to achieve and maintain a competitive edge

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to receive, analyse and report on feedback
- literacy skills to interpret written and verbal information about workplace requirements
- organisational skills to set and achieve priorities.

Required knowledge

- principles and techniques involved in the management and organisation of:
 - performance measurement
 - personal behaviour, self-awareness and personality traits identification
 - personal development plan
 - personal goal setting
 - time management
- management development opportunities and options for self
- organisation's policies, plans and procedures
- types of learning style/s and how they relate to the individual
- types of work methods and practices that can improve personal performance.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • systems and processes (electronic or paper-based) used to organise and prioritise tasks, which show how work is managed • personal development plan, with career objectives and an action plan
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of work methods and practices that can improve personal performance • review of personal work goals, plans and activities • evaluation of work-life balance • review of documentation assessing personal knowledge and skills against competency standards.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Own responsibilities and accountabilities</i> may include:</p>	<ul style="list-style-type: none"> • expectations of workplace performance as expressed in a performance plan • outputs as expressed in position descriptions or duty statements • statement of conduct outlining an individual's responsibilities/actions/performance
<p><i>Technology</i> may include:</p>	<ul style="list-style-type: none"> • computerised systems and software, databases, project management and word processing • electronic diary • personal digital assistant (PDA)
<p><i>Competency standards</i> may include:</p>	<ul style="list-style-type: none"> • enterprise-specific units of competency consistent with work requirements • nationally endorsed units of competency consistent with work requirements
<p><i>Clients and colleagues</i> may be:</p>	<ul style="list-style-type: none"> • colleagues at the same level and more senior managers • internal or external customers • people from a wide range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities • team members
<p><i>Development opportunities</i> may include:</p>	<ul style="list-style-type: none"> • action learning • coaching • exchange/rotation • induction • mentoring • shadowing • structured training programs

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Management and Leadership - Management
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Co-requisite units

Co-requisite units		

BSBWOR502B Ensure team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to facilitate all aspects of teamwork within the organisation. It involves taking a leadership role in the development of team plans, leading and facilitating teamwork and actively engaging with the management of the organisation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit applies to managers and addresses the need for managers to facilitate work teams and to build a positive culture within work teams. The unit takes a systematic and planned approach to developing teams. It includes the soft skills as well as more structured approaches to the management of teams.</p> <p>At this level, work will normally be carried out within complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish team performance plan	1.1. Consult team members to establish a common understanding of team purpose, roles, responsibilities and accountabilities in accordance with organisational goals, plans and objectives 1.2. Develop performance plans to establish expected outcomes, outputs, key performance indicators and goals for work team 1.3. Support team members in meeting expected performance outcomes
2. Develop and facilitate team cohesion	2.1. Develop strategies to ensure team members have input into planning, decision making and operational aspects of work team 2.2. Develop policies and procedures to ensure team members take responsibility for own work and assist others to undertake required roles and responsibilities 2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4. Develop processes to ensure that issues, concerns and problems identified by team members are recognised and addressed
3. Facilitate teamwork	3.1. Encourage team members and individuals to participate in and to take responsibility for team activities, including communication processes 3.2. Support the team in identifying and resolving work performance problems 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image for all stakeholders
4. Liaise with stakeholders	4.1. Establish and maintain open communication processes with all stakeholders 4.2. Communicate information from line manager/management to the team 4.3. Communicate unresolved issues, concerns and problems raised by team members and follow-up with line manager/management and other relevant stakeholders 4.4. Evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to explain team goals, to address team conflict and to build an environment of trust
- planning and organisational skills to keep team on track and focussed on work outcomes.

Required knowledge

- group behaviour
- strategies for mentoring and coaching to informally guide and instruct team members
- issue resolution
- strategies for gaining consensus.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • range of techniques that can be used to build work teams, strengthen communications in the team and resolve issues • methods for engaging with stakeholders and obtaining advice from outside the work team, to ensure team is focussed and on track • knowledge of group behaviour.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of team building techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • review of performance plans developed for work team • review of policies and procedures developed to ensure team members take responsibility for own work.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Consultation may refer to:	<ul style="list-style-type: none"> • conducting meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual performance plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation
Accountabilities may refer to:	<ul style="list-style-type: none"> • responsibilities as defined in position descriptions, codes of conduct/behaviour, duty statements or similar • statement of conduct outlining responsibilities/actions/performance
Performance plans may refer to:	<ul style="list-style-type: none"> • individual performance plans linked to team goals • team plans based on work assignments and responsibilities
Outcomes, outputs, key performance indicators may refer to agreed:	<ul style="list-style-type: none"> • changes in work roles and responsibilities • improved individual and team, performance and participation • improvements to systems, operations • measures for monitoring and evaluating the efficiency or effectiveness of systems or services • quality standards and expectations • targets for productivity improvements such as reduced downtime, higher production levels, decreases in absenteeism • targets for training and development
Support may include:	<ul style="list-style-type: none"> • Coaching • Mentoring • Training and development opportunities • Clarification of roles and expectations

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Long term or short term plans • Meetings
<i>Strategies</i> may refer to:	<ul style="list-style-type: none"> • clarification of roles and expectations • electronic communication devices and processes, such as intranet and email communication systems, to facilitate input • long-term or short-term plans factoring in opportunities for team input • mentoring and 'buddy' systems to support team members in providing input • newsletters and briefings • training and development activities
<i>Policies and procedures</i> may refer to:	<ul style="list-style-type: none"> • organisational guidelines and systems that govern operational functions • procedures that detail the activities that must be carried out for the completion of actions and tasks • Standard Operating Procedures
<i>Processes</i> may refer to:	<ul style="list-style-type: none"> • brainstorming options with the team for addressing concerns • creating a matrix of issues and concerns and distributing for comment • discussions with individuals regarding their concerns • distributing drafts for comment with a range of options for resolution of concerns • training and development sessions
<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • Board members • business or government contacts • funding bodies • union/employee groups and representatives • work team
<i>Line manager/management</i> may refer to:	<ul style="list-style-type: none"> • chief executive officer • direct superior • other management representatives

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Industry Capability - Workplace Effectiveness
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Co-requisite units

Co-requisite units		

CUFANM301A Create 2D digital animations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to use industry-current software to create 2D animations.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit addresses basic 2D animation skills directed at developing animations for inclusion in interactive media products, short stand-alone animated sequences and basic games.</p> <p>A person in this role works closely with other members of a production team and reports to a senior animator, designer, director or producer. The short dynamic animations they produce may include audio components.</p> <p>Skills associated with 3D digital animation are covered in:</p> <ul style="list-style-type: none"> • CUFANM302A Create 3D digital animations. <p>More complex skills associated with 3D character animation, including animating facial expressions and lip syncing, are covered in:</p> <ul style="list-style-type: none"> • CUFANM501A Create 3D digital character animation.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Identify animation requirements	<ol style="list-style-type: none"> 1. Clarify 2D animation requirements, including design specifications and storyboard in consultation with relevant personnel 2. Clarify target users/audience and requirements with regard to output formats and delivery platforms
Generate and assess ideas	<ol style="list-style-type: none"> 3. Review animations, artworks and other creative sources that may inspire design ideas 4. Obtain other relevant information that may influence design ideas 5. Generate a range of animation ideas that are technically feasible, respond to specifications and provide creative solutions to all design issues 6. Present animation ideas to relevant personnel using appropriate design techniques
Plan approach	<ol style="list-style-type: none"> 7. Assess the range of industry-current 2D animation software available to determine compatibility with design specifications 8. In consultation with relevant personnel, select the most appropriate 2D animation software for a given purpose 9. Evaluate initial design ideas and specifications against findings and discuss with relevant personnel to select final design concept
Produce animations	<ol style="list-style-type: none"> 10. Apply basic screen principles, visual design principles, communication principles, animation techniques and animation principles to produce animated sequences 11. Source and import, or generate sufficient quantity of key drawings to establish required actions 12. Combine animated objects to produce single sequences according to creative requirements and specifications 13. Integrate audio assets where necessary 14. Save and store animations using appropriate output file formats and standard naming conventions
Finalise animations	<ol style="list-style-type: none"> 15. Review animations to assess creative solutions to design specifications, appropriateness to users/audience and technical feasibility 16. Discuss and confirm with relevant personnel additional requirements or modifications to overall designs or animations and undertake necessary amendments

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - interpret information in software user manuals and help features
 - work as a member of a project team, both independently on assignment and under direction
 - respond constructively to feedback received from other team members
- initiative and enterprise in the context of:
 - generating a range of feasible ideas for 2D animated sequences
 - visualising creative concepts
- technical skills sufficient to:
 - use appropriate software to develop 2D animations
 - produce hand-drawn sketches
 - apply the basic principles of screen, visual design and communication to produce 2D animations
 - create 2D animations in appropriate formats for a range of delivery platforms
 - manage files and directories using standard naming conventions and version control protocols
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members
 - basic understanding of the relationship between the technical and creative aspects and requirements of media projects
- basic animation techniques and principles
- basic screen principles
- principles of visual design and communication
- copyright clearance procedures
- OHS standards as they apply to use of computer and keyboard for periods of time

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of a range of 2D digital animations that: <ul style="list-style-type: none"> • meet specifications • demonstrate the basic principles of screen, visual design and communication • meet the technical requirements of at least two delivery platforms listed in the range statement • satisfy client requirements • collaborative approach to work.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a selection of resources, equipment and current industry-current software as listed in the range statement • where sound is integrated in the animated sequence, access to a range of suitable software to support the integration of sound and visual elements • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of 2D digital animations created by the candidate in response to specifications • written or oral questioning to test knowledge of visual design principles, communication principles, animation techniques and responsibilities of different members of a project team.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- CUFANM302A Create 3D digital animations
- CUFDIG301A Prepare video assets
- CUFDIG304A Create visual design components.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>2D animations</i> may include:</p>	<ul style="list-style-type: none"> • basic games • buttons • characters • illustrations • logos • morphs • objects • puzzles • simulated sequences • text • titles and credits.
<p><i>Design specifications</i> may include:</p>	<ul style="list-style-type: none"> • characters and objects • key frames • objects • references • samples • script • storyboard • technical specifications, including: <ul style="list-style-type: none"> • output file format • output file size • operating system • hardware specifications, including memory size, RAM • delivery platform • bandwidth • media form.
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • art director • audio asset creator • designer • director • graphic artist

RANGE STATEMENT	
	<ul style="list-style-type: none"> • instructional designer • navigation designer • producer • project manager • system support personnel • other technical and specialist personnel.
<i>Output formats</i> may include:	<ul style="list-style-type: none"> • DIR/DCR • FLA/SWF • GIF • HTML.
<i>Delivery platforms</i> may include:	<ul style="list-style-type: none"> • CD • DVD • film • games console • internet • kiosk • mobile phone • PDA (personal digital assistant) • video • other mobile devices.
<i>Design techniques</i> may include:	<ul style="list-style-type: none"> • digital illustrations of objects and characters • freehand sketches • storyboards • story trees.
<i>Animation software</i> may include:	<ul style="list-style-type: none"> • Director • Flash • Toon Boon Studio.
<i>Screen principles</i> may include:	<ul style="list-style-type: none"> • editing, including basic transitions • framing • lighting • montage • narrative • story-telling • style/genre.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • composition • emphasis • focal point • movement

RANGE STATEMENT	
	<ul style="list-style-type: none"> • perspective • proportion • scale • unity.
<i>Communication principles</i> may include:	<ul style="list-style-type: none"> • communicating the message • conveying meaning • meeting audience requirements • using functional components.
<i>Animation techniques</i> may include:	<ul style="list-style-type: none"> • acceleration/deceleration • audio integration • hinges and pivots • key frames and tweens • looping backgrounds • morphing/object exaggeration • motion paths • registration points • rotation • speed/motion blur.
<i>Animation principles</i> may include:	<ul style="list-style-type: none"> • key frames • motion • pacing/timing • point of view.
<i>Audio assets</i> may include:	<ul style="list-style-type: none"> • music • narration • sound effects.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		

CUFANM302A Create 3D digital animations

Modification History

Not applicable.

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit describes the performance outcomes, skills and knowledge required to animate simple 3D models and create 3D animations.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>This unit requires the application of basic 3D animation skills to create animations for inclusion in interactive media products, short stand-alone animated sequences and basic games. At this level, animators are working with 3D digital models that have already been created. Animated sequences may include audio components.</p> <p>Animations are created using a range of industry-current software that is constantly evolving, so it is essential that people working in this area keep up to date with the latest software.</p> <p>This unit does not include techniques for stop-motion, cell-analogue and real time animation. Nor does it cover more sophisticated animation techniques used in film, television and high-end games. These are addressed in:</p> <ul style="list-style-type: none"> • CUFANM501A Create 3D digital character animation • CUFANM502A Create 3D digital environments.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify animation requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i>, clarify <i>3D animation</i> requirements and <i>design specifications</i> in consultation with <i>relevant personnel</i> 2. Examine the models to be animated to determine the most appropriate <i>animation techniques</i> 3. Identify the <i>file format</i> and <i>delivery platform</i> for animated sequences 4. Identify <i>factors</i> that may influence animation design approach 5. In consultation with relevant personnel, clarify work flow sequences to ensure that production schedule deadlines are met
Plan approach	<ol style="list-style-type: none"> 6. Research animations, artworks and other creative sources that may inspire visual design ideas 7. Generate a range of animation ideas that are technically feasible, respond to briefs and provide creative solutions to all design issues 8. Present animation ideas to relevant personnel using appropriate <i>design techniques</i>. 9. Adjust approach to incorporate feedback and agree on final design concepts 10. Discuss and select <i>3D animation software</i> with relevant personnel to ensure that animated sequences meet specified outcomes 11. Analyse <i>audio assets</i> supplied for animations as required
Produce animated sequences for review	<ol style="list-style-type: none"> 12. Create 3D animations using animation techniques to suit design requirements 13. Apply basic <i>animation principles</i>, <i>screen principles</i>, <i>visual design principles</i> and <i>communication principles</i> 14. Apply real world camera techniques to virtual cameras used in 3D animation 15. Render completed animated sequences 16. Save and store animated sequences using appropriate output file formats, standard naming conventions and version control protocols 17. Present 3D animated sequences to relevant personnel for evaluation by agreed deadlines
Finalise animated	<ol style="list-style-type: none"> 18. Review animated sequences to assess creative solutions to design briefs, appropriateness to users/audience and

ELEMENT	PERFORMANCE CRITERIA
sequences	technical feasibility 19. Discuss and confirm with relevant personnel additional requirements or modifications and complete changes as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - work as a member of a production team, both independently on assignment and under direction
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- conceptual and creative skills in the context of:
 - generating feasible ideas for animated sequences
 - having a feel for movement and timing in order to produce convincing animations
 - maintaining design integrity
- technical skills sufficient to:
 - use industry-current animation software to develop digitally animated sequences
 - apply the principles of basic screen, visual design and communication to produce 3D animated sequences
 - output 3D animated sequences in appropriate file formats for a range of delivery platforms
 - manage files and directories using standard naming conventions and version control protocols
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- roles and responsibilities of project team members in the relevant industry sector
- basic understanding of the stages in the production process from initial design through to finished product
- issues and challenges that arise in the context of creating 3D digital animations
- basic 3D digital animation techniques
- basic screen principles
- principles of animation
- principles of visual design and communication
- features of a range of delivery platforms

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• OHS standards as they relate to working for periods of time on computers |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of 3D digital animated sequences that: <ul style="list-style-type: none"> • demonstrate the principles of basic screen, visual design and communication • meet the technical requirements of specific platforms • satisfy the design brief and client requirements • collaborative approach to work • attention to detail • ability to meet production deadlines.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a range of resources, equipment and current industry-current software as listed in the range statement • where sound is integrated in animated sequences, access to a range of suitable software to support the integration of sound and visual elements • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence, authenticated show reels and third-party workplace reports of on-the-job performance • critical analysis of a range of 3D digital animated sequences created by the candidate to determine ability to meet design requirements • written or verbal questioning to test knowledge as listed in the required skills and knowledge section of

EVIDENCE GUIDE	
	<p>this unit</p> <ul style="list-style-type: none">informal questioning and discussion, including response to feedback and diagnostics.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">CUFANM303A Create 3D digital modelsCUFDIG303A Produce and prepare photo imagesCUFDIG304A Create visual design componentsCUFSOU301A Prepare audio assets.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production documentation</i> may include	<ul style="list-style-type: none"> • animatics • brief • storyboard • technical specifications.
<i>3D animations</i> may include:	<ul style="list-style-type: none"> • 3D elements • 3D panoramas • basic games • buttons • characters • illustrations • logos • models • morphs/blend shapes • puzzles • simulated sequences • text • titles and credits.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • characters and objects • key frames • objects • references • samples • script • storyboard • technical specifications, including: <ul style="list-style-type: none"> • output file format • version control protocols • output file size • operating system • hardware specifications, including memory size, RAM • delivery platform

RANGE STATEMENT	
	<ul style="list-style-type: none"> • media form.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • 3D modeller • 3D producer • animation director • audio asset creator • director • graphic artist/designer • instructional designer • lead animator • matte painter • system support personnel • other technical and specialist personnel.
<i>Animation techniques</i> may include:	<ul style="list-style-type: none"> • acceleration/deceleration • audio integration • dynamic simulation • hierarchies • hinges and pivot points • hybrid method • key frames • layered animation • looping backgrounds • morphing/object exaggeration • motion capture • motion paths • pose to pose animation • registration points • rotation • scripted animation • speed/motion blur • straight-ahead animation.
<i>File formats</i> may include:	<ul style="list-style-type: none"> • AAS • ACT • ANI • ANM • ANS • AVI • AWA • AWM • CEL • CFT

RANGE STATEMENT	
	<ul style="list-style-type: none"> • CMV • DIR/DCR • FLA/SWF • FLC • FLI • FLX • GIF • HTML • IFF • JPEG • LWOB • M3D • MMM • MOV • MPEG • MWF • PNG • QTVR • SEC • TIFF • VAN • VUE.
<i>Delivery platforms</i> may include:	<ul style="list-style-type: none"> • CD • DVD • film • games console • internet • kiosk • mobile phone or device • PDA (personal digital assistant) • video.
<i>Factors</i> may include:	<ul style="list-style-type: none"> • budget • purpose of animation • resources • target audience • timelines.
<i>Design techniques</i> may include:	<ul style="list-style-type: none"> • digitally generated illustrations of objects and/or characters • freehand sketches • fully rendered hand-drawn illustrations

RANGE STATEMENT	
	<ul style="list-style-type: none"> • story trees • storyboards.
<i>Animation software</i> may include:	<ul style="list-style-type: none"> • 3D Studio Max • Cinema 4D • Houdini • Lightwave • Maya • Motionbuilder • Soft Image - XSI.
<i>Audio assets</i> may include:	<ul style="list-style-type: none"> • music • narration • sound effects.
<i>Animation principles</i> may include:	<ul style="list-style-type: none"> • anticipation • asymmetry in body and facial poses • balanced poses • exaggeration • movement in arcs • overlapping actions and follow-through • pacing/timing • secondary actions • singularity of message • squash and stretch • staging • strong silhouette in poses • weight.
<i>Screen principles</i> may include:	<ul style="list-style-type: none"> • camera techniques • editing, including basic transitions • framing • lighting • montage • narrative • story-telling • style/genre.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • composition • emphasis • movement • perspective • proportion

RANGE STATEMENT	
	<ul style="list-style-type: none"> • scale • unity.
<i>Communication principles</i> may include:	<ul style="list-style-type: none"> • communicating the message • conveying meaning • meeting audience requirements • using functional components.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		

CUFANM303A Create 3D digital models

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to create 3D digital models.</p> <p>This unit is a prerequisite for:</p> <ul style="list-style-type: none">• CUFANM401A Prepare 3D digital models for production. <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>3D modellers working on relatively simple projects apply the skills and knowledge described in this unit. From reference material and established designs, they create 3D models using whatever software is applicable to the production.</p> <p>3D models need to meet technical and design specifications, as well as being efficient, reliable, to scale, and easy to rig and animate.</p> <p>Modellers need to appreciate what will be required of their models in later stages of production because this can affect the work they produce. Close liaison with other team members is, therefore, important. Even though a senior modeller or technical director supervises the creation of models, people at this level are expected to work autonomously within clear guidelines.</p> <p>More complex skills associated with 3D digital modelling are covered in:</p> <ul style="list-style-type: none"> • CUFANM401A Prepare 3D digital models for production.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify work requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i>, clarify <i>requirements</i> and <i>purpose</i> for 3D digital models 2. In consultation with <i>relevant personnel</i>, clarify work flow sequences to ensure that <i>production</i> schedule deadlines are met 3. Select <i>software</i> that best suits the type of production and <i>delivery platform</i> for which 3D digital models are being created 4. Gather and analyse <i>reference materials</i> to help with visualisation of 3D models
Create 3D digital models	<ol style="list-style-type: none"> 5. Use software features to block out models to determine correct proportions in relation to reference materials 6. Manipulate software features to apply basic lighting and shaders as required 7. Ensure that models' topology allows appropriate deformation, as required 8. <i>Progressively refine</i> and check <i>integrity</i> of models until they meet design requirements 9. Submit models to relevant personnel for comment on whether production requirements have been met and make final adjustments as required 10. Render and output models in required <i>format</i> and submit to relevant personnel by agreed deadlines 11. Make back-up copies of files and complete workplace documentation according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - work as a member of a production team, both independently on assignment and under direction
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- technical skills sufficient to:
 - use industry-current software applications to create 3D models to specifications
 - manage files and directories using standard naming conventions and version control protocols
 - make back-up copies of files and store appropriately
- initiative and creativity in the context of visualising and accurately creating 3D digital models of a range of animate and inanimate objects
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- roles and responsibilities of project team members in the relevant industry sector
- basic understanding of the stages in the production process from initial design through to finished product
- issues and challenges that arise in the context of creating 3D digital models
- 3D digital modelling techniques
- strong sense of scale, form, weight and volume
- geometry as it applies to the creation of realistic 3D digital models
- features of a range of delivery platforms
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of 3D digital models that: <ul style="list-style-type: none"> • demonstrate efficient use of geometry and attention to detail • meet design requirements • collaborative approach to work • ability to meet deadlines.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a selection of industry-current software as listed in the range statement • access to simulated or real production situations that require the creation of 3D digital models • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of 3D digital models created by the candidate to determine ability to create models for different kinds of objects • written or verbal questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFANM302A Create 3D digital animations

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• CUVDSP11A Research and apply techniques for illustrative work• CUVVSP16A Research and experiment with techniques to produce drawings.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production documentation</i> may include:	<ul style="list-style-type: none"> • animatics • brief • storyboard • technical specifications.
<i>Requirements</i> may include:	<ul style="list-style-type: none"> • assets for integration • collaboration with other team members • creative expectations • design specifications • output format • technical specifications • timelines.
<i>Purpose</i> of 3D digital models may be for:	<ul style="list-style-type: none"> • animations • digital simulations, e.g.: <ul style="list-style-type: none"> • architectural models • e-learning resources • demonstration of processes and procedures.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • 3D designer or concept artist • 3D modeller • art director • director • head of department • matte painter • producer • project manager • storyboard artist • supervisor • technical director • other technical/specialist personnel.
<i>Production</i> may include:	<ul style="list-style-type: none"> • animated productions • commercials • digital media products, e.g.: <ul style="list-style-type: none"> • simulations

RANGE STATEMENT	
	<ul style="list-style-type: none"> • games • e-learning resources • virtual worlds/environments • documentaries • feature films • filmed events or performances • music video • short films • television productions.
<i>Software</i> may include:	<ul style="list-style-type: none"> • 3D, e.g.: <ul style="list-style-type: none"> • 3D Studio Max • Maya • Softimage • graphics, e.g.: <ul style="list-style-type: none"> • Photoshop • Illustrator.
<i>Delivery platforms</i> may include:	<ul style="list-style-type: none"> • broadcast television • CD • DVD • film • internet • Kiosk • mobile phone • PDA (personal digital assistant) • other digital devices.
<i>Reference materials</i> may include:	<ul style="list-style-type: none"> • books • concept drawings and designs • direct observation of actions to be simulated in 3D models • real object on which models are to be based • still images • videos.
<i>Progressive refinements</i> may include:	<ul style="list-style-type: none"> • achieving required shape • achieving required topology.
Aspects to be checked for <i>integrity</i> may include:	<ul style="list-style-type: none"> • double faces • isolated vertices • pivot points • resetting transform • scale of models relative to other components in

RANGE STATEMENT	
	final sequences.
<i>Formats</i> may include:	<ul style="list-style-type: none"> • AVI • IFF • JPEG • MPEG • PNG • Quicktime • Targa • TIFF.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - Animation and digital effects
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Co-requisite units

Co-requisite units	

CUFANM401A Prepare 3D digital models for production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare 3D digital models for a range of contexts. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

<p>Application of the unit</p>	<p>This unit requires the application of 3D digital modelling skills to prepare 3D models (including character models) to a high level of finish so they are ready for use in animations, high-end games, virtual worlds or specialist digital resource materials in areas such as medicine, architecture, engineering and aeronautics.</p> <p>On small-scale productions, modellers also rig, build textures and create lighting. On larger projects, they may be required to liaise with riggers, texture and lighting artists. Even though work at this level is undertaken with minimum supervision, modellers are members of a production team and close collaboration with other team members is essential, as is an ability to deliver on schedule and to work under pressure.</p> <p>As they develop their skills and interests, modellers may concentrate on different areas, such as characters, objects, environments and special effects. Aspects of these skills are covered in:</p> <ul style="list-style-type: none"> • CUFANM402A Create digital visual effects • CUFANM501A Create 3D digital character animation • CUFANM502A Create 3D digital environments.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>	<ul style="list-style-type: none"> • CUFANM310A Create 3D digital models 	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify work requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i>, clarify <i>requirements</i> and <i>purpose</i> for 3D digital models 2. In consultation with <i>relevant personnel</i>, clarify work flow sequences to ensure that production schedule deadlines are met 3. Select <i>software</i> that best suits the type of production and <i>delivery platform</i> for which 3D digital models are being prepared 4. Gather and analyse <i>reference material</i> to help with visualisation of final models
Prepare 3D models	<ol style="list-style-type: none"> 5. Build and modify shaders to achieve required outcome 6. <i>Apply texture coordinates</i> or UV mapping as required 7. Paint required <i>texture maps</i> 8. Use appropriate <i>lighting techniques</i> to light the 3D models as required 9. Rig 3D models as required, ensuring that controls are logical and easy to use, and that rigs are robust and perform to specifications 10. Set up <i>model deformations</i> as required 11. Use <i>scripting language</i> as required to enhance the functionality of rigs 12. Create morph targets or blend shapes as required
Finalise 3D digital models	<ol style="list-style-type: none"> 13. Test models to identify faults, and adjust as required 14. Submit final models to relevant personnel by agreed deadlines 15. Make back-up copies in accordance with enterprise procedures 16. Complete workplace documentation as required 17. Render final models as required 18. Review process of constructing 3D digital models and note areas for future improvement

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - work collaboratively with other team members
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- technical skills sufficient to:
 - use the full range of features of industry-current software applications to prepare 3D digital models to specifications
 - follow design reference accurately and work in a range of styles
 - manage files and directories using standard naming conventions and version control protocols
 - make back-up copies of files on a continuous basis and store appropriately
- initiative and creativity in the context of:
 - visualising and modelling 3D characters, props and environments to a high level of finish
 - analysing and solving problems as they arise during the modelling process
- self-management, learning and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - continuously improve skills and knowledge by keeping up to date with industry developments and new software features
 - seek expert assistance as required

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members in the relevant industry sector
 - sound understanding of the relationship between the technical and creative aspects and requirements of productions in which 3D digital models are used
 - issues and challenges that arise in the context of preparing 3D digital models
- well-developed drawing skills, including use of light and shadow
- good understanding of anatomy
- modelling techniques with polygons and NURBS
- strong sense of scale, form, weight and volume
- strong understanding of light, colour, composition and mood

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• technical parameters of various platforms and how these impact on the process of preparing 3D digital models• OHS standards as they relate to working for periods of time on computers |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • 3D digital models created to a high level of finish that: <ul style="list-style-type: none"> • are robust and perform to specifications • demonstrate attention to detail • meet design and aesthetic requirements • collaborative approach to work • ability to meet deadlines.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a selection of industry-current software as listed in the range statement • access to simulated or real production situations that require the preparation of 3D digital models • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of 3D digital models prepared by the candidate to determine ability to create models in a range of styles • written or verbal questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• BSBCRT402A Collaborate in a creative process• CUFANM402A Create digital visual effects• CUFANM501A Create 3D digital character animation• CUFANM502A Create 3D digital environments.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production documentation</i> may include:	<ul style="list-style-type: none"> • animatics • brief • storyboard • technical specifications.
<i>Requirements</i> may include:	<ul style="list-style-type: none"> • assets for integration • collaboration with other team members • creative expectations • design specifications • output format • technical specifications • timelines.
<i>Purpose</i> of 3D digital models may be for:	<ul style="list-style-type: none"> • animations • digital simulations, e.g.: <ul style="list-style-type: none"> • architectural models • e-learning resource • demonstration of processes and procedures.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • 3D designer or concept artist • 3D modeller • art director • director • head of department • matte painter • producer • project manager • storyboard artist • supervisor • technical director • technical/specialist personnel.
<i>Software</i> may include:	<ul style="list-style-type: none"> • graphics, e.g. <ul style="list-style-type: none"> • Illustrator • Photoshop • 3D

RANGE STATEMENT	
	<ul style="list-style-type: none"> • 3D Studio Max • Maya • Softimage.
<i>Delivery platform</i> may include:	<ul style="list-style-type: none"> • broadcast television • CD • DVD • film • games console • internet • kiosk • mobile phone • mobile phone or other digital devices • personal digital assistant (PDA) • video.
<i>Reference material</i> may include:	<ul style="list-style-type: none"> • books • concept drawings and designs • direct observation of actions to be simulated in 3D models • maquette • real objects on which models are to be based • still images • videos.
<i>Application of texture coordinates</i> involves:	<ul style="list-style-type: none"> • efficient use of texture space • logical layout to facilitate ease of painting textures • minimal texture distortion • minimal texture seams.
<i>Texture maps</i> may include:	<ul style="list-style-type: none"> • bump • colour • normal • reflection • specular • transparency.
<i>Lighting techniques</i> may include:	<ul style="list-style-type: none"> • global illumination • image-based lighting • radiosity • simple lighting set-ups • vertex lighting.
<i>Model deformations</i> may include:	<ul style="list-style-type: none"> • corrective morph targets

RANGE STATEMENT	
	<ul style="list-style-type: none"> • muscle simulations • skinning of model to rig • weighting of vertices • wrap deformers.
<i>Scripting languages</i> may include:	<ul style="list-style-type: none"> • MAX • MEL • Python.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		

CUFANM403A Create titles for screen productions

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to create digital titles for screen productions.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>Titles designers or graphic artists working in the screen and media industries apply the skills and knowledge described in this unit. They are responsible for designing the opening titles and captions that appear in film and television productions and in digital media products, such as games and e-learning resources.</p> <p>They work closely with directors and post-production personnel to ensure that screen titles reflect the theme and mood of the overall production or product. A collaborative approach to work is therefore essential, as is an ability to meet deadlines.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify work requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i>, clarify requirements for screen <i>titles</i> 2. In consultation with <i>relevant personnel</i>, clarify work flow sequences to ensure that production schedule deadlines are met 3. Identify the available budget for the production of titles as required
Identify items to be included in titles	<ol style="list-style-type: none"> 4. Produce and maintain a schedule of <i>items</i> to be included in titles 5. Determine if graphic items need to be imported from other sources and source these items as required 6. Obtain copyright clearances to use imported items as required 7. Select appropriate fonts and/or create fonts as required
Generate and assess ideas	<ol style="list-style-type: none"> 8. Generate a range of ideas for the design of screen titles that respond sympathetically to briefs and provide creative solutions to all design issues 9. Discuss ideas and collaborate, as required, with relevant personnel to ensure contribution of ideas to initial concepts 10. Continuously reflect on and appraise ideas for implications on cost, technical feasibility and suitability to meet specifications
Create titles	<ol style="list-style-type: none"> 11. Incorporate and manipulate moving or static graphic items to be included in titles 12. Modify titles and source items to ensure that the required visual effect is achieved 13. Trial various techniques and styles and produce initial compilation of titles ensuring that style, content and creative intentions are met 14. Decide upon the appropriate <i>parameters of display</i> to meet with creative requirements and technical specifications 15. Review initial titles to ensure that they meet <i>technical and creative requirements</i> 16. Ensure that the <i>movement</i> of titles and other graphic items maximises the visual impact required for <i>productions</i> 17. Ensure that titles incorporate captions with required images and sound, and are correctly synchronised with

ELEMENT	PERFORMANCE CRITERIA
	<p>sound</p> <p>18. Ensure that titles are legible and appropriately spaced</p> <p>19. Record and store titles and other graphic images according to enterprise procedures</p>
Finalise titles	<p>20. Present initial title compilations to relevant personnel for feedback</p> <p>21. Participate in initial and ongoing evaluation of titles</p> <p>22. Confirm accuracy of text, spelling, punctuation and content</p> <p>23. Negotiate and agree to additional requirements and modify titles as required</p> <p>24. Ensure that agreement is reached with, and approval granted by, relevant personnel before proceeding with the final production of titles</p> <p>25. Review process of creating titles and note areas for future improvement</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - collect and interpret creative information, scripts and images
 - use correct grammar and spelling in screen titles
 - work collaboratively in a team environment, both independently and under direction
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- technical skills sufficient to:
 - use common features of industry-current visual effects software to create screen titles
 - produce screen titles for a range of output formats
 - manage files and directories using standard naming conventions and version control protocols
- initiative and creativity in the context of:
 - visualising and interpreting creative concepts
 - maintaining design integrity
 - creatively integrating media assets to achieve the required digital visual effects
 - troubleshooting and solving problems as they arise during the process of creating titles for screen productions
- self-management, learning and planning skills sufficient to:
 - prioritise work tasks
 - continuously improve skills and knowledge by keeping up to date with industry developments and new software features
 - meet deadlines
 - seek expert assistance as required

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members in the relevant industry sector
 - sound understanding of the technical and creative elements of productions in which screen titles are used
 - issues and challenges that arise in the context of creating titles for screen productions

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• principles of typographic design• the effects of caption movement in one plane• the effects of caption movement in multiple planes and axes• copyright requirements with regard to importing items into screen titles• OHS standards as they relate to working for periods of time on computers |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of a range of screen titles that: <ul style="list-style-type: none"> • meet the requirements of a brief • demonstrate attention to detail and an ability to achieve the required creative effect • collaborative approach to work • ability to meet deadlines.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to industry-current software used to create screen titles • access to simulated or real production situations that require the creation of screen titles • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of digital screen titles created by the candidate to determine ability to create different types of titles • written or verbal questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBCRT402A Collaborate in a creative process

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• CUFANM402A Create digital visual effects• CUFDIG304A Create visual design components.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Production documentation</i> may include:	<ul style="list-style-type: none"> • animatics • brief • script • shot list • storyboard • technical specifications.
<i>Titles</i> may be:	<ul style="list-style-type: none"> • animated • crawling • dissolved • effect • faded • layered • reveal • rolling • static • zip.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • designers • director • director of photography • editor • head of department • post-production manager • producer • SFX (sound effects) supervisor • sound personnel • storyboard artist • supervisor • technical director • other technical/specialist personnel.
<i>Items</i> to be included in the titles may include:	<ul style="list-style-type: none"> • background • captured frames • fonts

RANGE STATEMENT	
	<ul style="list-style-type: none"> • images, e.g.: <ul style="list-style-type: none"> • static • moving • graphic • photographic • cinematographic • logos • objects • text.
<i>Parameters of display</i> may include:	<ul style="list-style-type: none"> • colour • duration • punctuation • shading • spacing • spelling • style • thickness • typeface.
<i>Technical and creative requirements</i> include:	<ul style="list-style-type: none"> • choreography of movement • colour frequency • focus • signal requirements • speed • type.
<i>Movement</i> of titles and other graphic images may include:	<ul style="list-style-type: none"> • bounce • compression • expansion • rotation.
<i>Productions</i> may include:	<ul style="list-style-type: none"> • animated productions • commercials • documentaries • feature films • filmed events or performances • interactive digital media products, e.g.: <ul style="list-style-type: none"> • e-learning resources • games • promotional/informational products • music videos • short films

RANGE STATEMENT

	<ul style="list-style-type: none"> • television productions • training or promotional videos/DVDs.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		

CUFANM503A Design animation and digital visual effects

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the skills and knowledge required to design animation and digital visual effects for screen productions. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>Designers who specialise in animation or visual effects apply the skills and knowledge described in this unit. They work closely with people such as directors or producers to prepare design specifications for animation or visual effects for projects, which range in scope from television commercials to aspects of feature films, an entire animated film or interactive games.</p> <p>A high level of creative conceptualisation is required, along with an ability to undertake background research.</p> <p>Even though designers operate at a senior level with a high degree of autonomy, the process of generating concepts and ideas is collaborative. An ability to work in a team environment and with clients is therefore essential.</p> <p>Skills associated with implementing designs are covered in:</p> <ul style="list-style-type: none"> • BSBDES601A Manage design realisation.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify design requirements	<ol style="list-style-type: none"> 1. With reference to <i>production documentation</i> identify the scope of <i>design projects</i> 2. Identify <i>factors</i> that may have an impact on the design process 3. Participate in preliminary concept meetings to clarify understanding of design requirements 4. With reference to production documentation, itemise elements that need to be addressed during the design phase
Generate and assess ideas	<ol style="list-style-type: none"> 5. Generate a range of design ideas that respond sympathetically to the brief and provide creative solutions to design issues 6. Assess ideas and collaborate, as required, with <i>relevant personnel</i> to maximise contribution of ideas to initial concepts 7. Continuously reflect on and appraise ideas for implications on cost, technical feasibility, and creative requirements
Conduct research and experimentation	<ol style="list-style-type: none"> 8. <i>Research</i> aspects of <i>content</i> and <i>target audience characteristics</i> that might influence production styles and techniques 9. Trial various <i>techniques</i> to test the suitability of their use in given design projects 10. Organise research and experimentation material for ease of access by relevant personnel during the design development process 11. Analyse and document research and experimentation findings for use during the design phase
Produce draft design specifications	<ol style="list-style-type: none"> 12. In consultation with relevant personnel, evaluate initial concept ideas in light of research and experimentation findings and select the most appropriate approach 13. Ensure that agreement is reached with relevant personnel on a consistent interpretation of design and visual details 14. Create storyboards as required 15. Prepare or supervise the preparation of sample material to be included in <i>design specifications</i> as required 16. Write draft design specifications to include relevant advice to design and development teams 17. Discuss draft design specifications with relevant

ELEMENT	PERFORMANCE CRITERIA
	personnel to ensure that all requirements have been addressed
Finalise design specifications	18. Present draft design specifications to relevant personnel for review 19. Participate in the initial and ongoing evaluation of design specifications 20. Negotiate and agree to additions or modifications and amend design specifications as required 21. Clarify the ongoing role of the designer during the production phase and in the evaluation of the final animations or digital visual effects 22. Review process of designing animation and digital visual effects and note areas for future improvement

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret creative concepts and briefs
 - prepare design specifications
 - present design ideas for discussion and feedback from team members
 - clearly and concisely document specifications for the design of animation and digital visual effects
 - work collaboratively with other members of a production team
 - negotiate amendments and additions to design specifications
- initiative, enterprise and creativity in the context of:
 - developing original, innovative and creative approaches to designing animation and visual effects
 - experimenting with techniques to achieve desired visual effects
 - extending creative boundaries for self and audience
 - thinking laterally when developing concepts
 - undertaking background research to inform design projects
 - maintaining design integrity
 - finding ways to minimise the effect of technical constraints
 - finding creative solutions to problems identified during the process of designing animation and visual effects
 - locating and using resources to broaden own creative experience
- technical skills sufficient to use standard word processing, spreadsheet and presentation software in the context of preparing design and technical specifications
- learning in the context of improving performance/product through self-reflection and reworking after feedback.
- self-management skills sufficient to:
 - meet deadlines
 - provide appropriate and timely documentation

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members in the relevant industry sector
 - sound understanding of the relationship between the technical and creative aspects and requirements of productions for which animation and digital visual

REQUIRED SKILLS AND KNOWLEDGE

- effects are being designed
 - issues and challenges that arise in the context of designing animation and digital visual effects
- principles and techniques of animation, layout and composition
- screen principles
- principles of visual design and communication
- colour theory, line, dimension, depth and their application on the screen
- drawing techniques, including drawing to scale
- formats and techniques for documenting the design of animation and digital visual effects
- OHS standards as they relate to working for periods of time on computers
- intellectual property rights and copyright clearance procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • design specifications for animation and digital visual effects that: <ul style="list-style-type: none"> • are well documented and clearly presented • supported by appropriate research • meet production requirements • ability to work effectively as a member of a production team • effective verbal presentation skills.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • practical demonstration of skills through the design of animation and digital visual effects for at least two projects • access to project briefs on which designs can be based • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of designs for animation and visual effects documented by the candidate and their effectiveness in terms of meeting production requirements • observation of a candidate presenting their designs to team members and explaining how it meets requirements.
Guidance information for	Holistic assessment with other units relevant to the

EVIDENCE GUIDE

assessment

industry sector, workplace and job role is recommended, for example:

- BSBDES601A Manage design realisation
- BSBCRT501A Originate and develop concepts.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Production documentation</i> may include:</p>	<ul style="list-style-type: none"> • animatics • brief • script • shot list • storyboard • technical specifications.
<p><i>Design projects</i> may include</p>	<ul style="list-style-type: none"> • animation and/or digital visual effects for: <ul style="list-style-type: none"> • films • television productions • commercials/advertisements • games • e-learning resources • websites • mobile phones • promotional/informational videos/DVDs • digital simulations • virtual worlds.
<p><i>Factors</i> may include:</p>	<ul style="list-style-type: none"> • audience/user • availability of personnel • availability of resources • available budget • complexity of project • expectations of producers and/or directors • intellectual property • need to attract finance • production schedule • production values • technical parameters, including: <ul style="list-style-type: none"> • technology constraints • console • platform

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bandwidth • memory/RAM • HDTV • timelines.
Relevant personnel may include:	<ul style="list-style-type: none"> • animators • clients. • composers • designers • director • director of photography • head of department • producer • supervisor • technical director • writers • other technical/specialist personnel.
Research may include:	<ul style="list-style-type: none"> • contacting historical or other special interest associations • reading newspapers books and other reference material • reading software manuals • searching the internet • talking and listening to experts • watching documentary material.
Aspects of content may include:	<ul style="list-style-type: none"> • cultural considerations • historical period • style of production: <ul style="list-style-type: none"> • comic • dramatic • fantasy • educational/instructive • informational • promotional.
Target audience characteristics may include:	<ul style="list-style-type: none"> • computer literacy • demographics, e.g.: <ul style="list-style-type: none"> • age • gender • education • occupation

RANGE STATEMENT	
	<ul style="list-style-type: none"> • location • cultural background • hobbies • interests • internet literacy • language, literacy and numeracy • personas • specific needs - physical or psychological.
<i>Techniques</i> may include:	<ul style="list-style-type: none"> • 2D animation • 2D graphics and paint • 3D models and animation • compositing.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • content inventory • diagrams • flow charts • illustrations • maps • models • plans • resource issues • sample animation elements • sketches • storyboards • technical drawings • technical specifications • video clips • wire frames.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		

CUFCMP301A Implement copyright arrangements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement individual or collaborative copyright arrangements.</p> <p>This unit is related to CUFCMP501A Manage and exploit copyright arrangements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit addresses the implementation of copyright arrangements, including sourcing copyright information, gaining clearance to use other people's material and protecting material from unauthorised use. It has application to people involved in using/creating original works, including literary works, computer programs, compilations, artistic works, dramatic works, musical works, cinematograph films, sound recordings, broadcasts, photographs, photographic imagery and published works.</p> <p>This unit does not address assigning copyright and licensing rights. This is addressed in:</p> <ul style="list-style-type: none"> • CUFCMP501A Manage and exploit copyright arrangements.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Source information on copyright	<ol style="list-style-type: none"> 1. Identify <i>sources of information</i> on copyright 2. Determine what is and is not protected by copyright 3. Identify and determine role of <i>copyright collection societies</i> 4. Check copyright legislation with <i>appropriate person</i> 5.
Obtain permission to use copyright material	<ol style="list-style-type: none"> 6. Identify copyright owner's <i>exclusive rights</i> 7. Determine need for copyright clearance and identify potential for <i>fair use</i> of copyright material 8. Discuss and confirm copyright clearance issues 9. Determine if <i>moral rights</i> or <i>performer's rights</i> need to be credited 10. Obtain and accurately record copyright clearance
Protect material from unauthorised use	<ol style="list-style-type: none"> 11. Confirm <i>original work</i> as being the result of individual/collaborative skill and effort 12. Discuss and formally record copyright ownership/proportional ownership 13. Identify and confirm individual/collaborative copyright responsibilities 14. Identify potential infringements to copyright and activities that will not infringe copyright 15. Apply <i>copyright notices</i> on creative works in a correct manner 16. Prepare, date and store <i>documentation</i> to track copyright requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- numeracy skills sufficient to determine the duration of copyright arrangements
- literacy skills sufficient to read copyright information and to complete copyright documentation
- learning skills sufficient to maintain knowledge of copyright issues
- teamwork skills sufficient to work with collaborators when discussing copyright ownership
- problem solving skills sufficient to recognise problems that arise from copyright ownership discussions and to seek expert advice on solving them
- technology skills sufficient to use documentation systems for tracking copyright requirements and for accessing/downloading copyright material

Required knowledge

- basic understanding of copyright principles/legislation relevant to implementing copyright arrangements
- recognised procedures to determine copyright ownership
- function of the Australian Copyright Council as it relates to own work context

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> ability to source information and seek appropriate assistance as required to organise copyright arrangements, and ability to apply this information to day-to-day work activities knowledge of copyright principles/legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to a range of relevant and current industry information materials, such as the Copyright Act 1968, Copyright Amendment (Digital Agenda) Act 2000 and Australian Copyright Council information sheets access to an environment where copyright information can be applied and copyright ownership discussed access to appropriate personnel to check copyright legislation access to appropriate technology to source copyright information and prepare copyright documentation access to appropriate learning and assessment support when required use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>The following assessment methods are appropriate for this unit:</p> <ul style="list-style-type: none"> direct observation of the candidate obtaining permission to use copyright material case studies to assess ability to identify sources of information on copyright written and verbal questioning or interview to test knowledge of the sources of information and the role of copyright collection societies problem solving activities to assess ability to

EVIDENCE GUIDE	
	<p>recognise problems that arise from copyright ownership discussions</p> <ul style="list-style-type: none"> • review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFIND201A Develop and apply creative arts industry knowledge • CUFIND301A Work effectively in the screen and media industries.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Sources of information</i> may include:</p>	<ul style="list-style-type: none"> • Australian Copyright Council • copyright collection societies • copyright legislation • industry associations • industry information sheets and journals • internet • libraries • union publications (newsletters, magazines, bulletins and letters).
<p><i>Copyright collection societies</i> may include:</p>	<ul style="list-style-type: none"> • Australasian Mechanical Copyright Owners Society Ltd (AMCOS) • Australasian Performing Right Association (APRA) • Christian Copyright Licensing International • Copyright Agency Ltd (CAL) • International copyright collection societies • Mediacom/LicenSing • Phonographic Performance Company of Australia (PPCA) • Screenrights • VISCOPY • Word of Life International.
<p><i>Appropriate person</i> may include:</p>	<ul style="list-style-type: none"> • agents/artists' managers/industry managers • Australian Copyright Council representatives • copyright collection society representatives • employee association/union representatives • industry/industry association representatives • legal representatives • licensers/publishers.
<p><i>Exclusive rights</i> may include:</p>	<ul style="list-style-type: none"> • communicating the work to the public • importing the work into Australia • licensing and assigning the work • making an adaptation of the work

RANGE STATEMENT	
	<ul style="list-style-type: none"> • making the work public for the first time • performing/showing/transmitting the work in public • reproducing the work.
<i>Fair use</i> of copyright material may include:	<ul style="list-style-type: none"> • new exceptions for consumers and new flexible dealing exception • professional advice by a lawyer, patent attorney or trade mark attorney • reporting news • research, study, criticism or review.
<i>Moral rights</i> may include the right of the creator:	<ul style="list-style-type: none"> • not to have their work falsely attributed • not to have their work treated in a derogatory way • to be attributed (or credited) for their work.
<i>Performer's rights</i> may include:	<ul style="list-style-type: none"> • the moral rights in performances • the ownership of copyright in sound recordings • the rights to control recording and communication of their performances.
<i>Original work</i> may include:	<ul style="list-style-type: none"> • artistic works, e.g. paintings, drawings, cartoons, sculpture, craft work, architectural plans, buildings, photographs, photographic imagery, maps, plans, special effects make-up • broadcasts, e.g. television, radio • cinematograph films, e.g. film, video, DVD • compilations, e.g. anthologies, directories, databases • computer programs • dramatic works, e.g. choreography, screenplays, plays, mime pieces, performances • musical works/performances • published editions • sound recordings • textual material, e.g. journal articles, novels, screenplays, poems, song lyrics, reports.
<i>Copyright notices</i> may include:	<ul style="list-style-type: none"> • for sound recordings, the letter P (for phonogram) in a circle or in brackets is used • the symbol ©, followed by the name of the copyright owner and the year of first publication.
<i>Documentation</i> may include dated copies of:	<ul style="list-style-type: none"> • artwork • digital media products • footage

RANGE STATEMENT

	<ul style="list-style-type: none"> • letters or other communications with people who have access to the original work • manuscripts • music (presented in any media or format) • negatives/photographs/photographic imagery • recordings • scores (music/film).
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Regulation, licensing and risk - Compliance
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Co-requisite units

Co-requisite units		

CUFDIG201A Maintain interactive content

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to maintain interactive content.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>People responsible for updating the content of websites apply the skills and knowledge described in this unit.</p> <p>Under direction, they upload a range of media assets and change text content, using a content management system that may be a proprietary system designed for a static or dynamic website. Changes to the interface and structure of the site are made by people in more senior positions.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Check website information for relevance and currency	<ol style="list-style-type: none"> 1. Confirm with <i>relevant personnel</i> frequency of upgrades 2. Obtain revised and additional <i>electronic content</i> and ensure correct versions 3. Confirm with relevant personnel the age limit of links that should be retained or deleted 4. Confirm with relevant personnel other revisions as required
Check links and navigation	<ol style="list-style-type: none"> 5. Select appropriate <i>link-checking software</i>, run software to test links and check currency of existing links 6. Save report document according to technical and organisational requirements 7. Check broken or failed links to determine site closures or new site addresses
Update information	<ol style="list-style-type: none"> 8. Access <i>content management system</i> and load appropriate files 9. Delete closed links and re-establish new site links if available 10. Check internal page links and rectify or delete as required 11. Import and/or change content material as required and specify appropriate <i>metadata</i> if required 12. Make heading, typographical and image revisions applying appropriate style sheets and alt tags if required 13. Insert additional pages or screens as required, applying appropriate templates or themes 14. Upload edited files to server using file transfer protocols (FTP). 15. Advise relevant personnel if new buttons, interface or navigation design are required to incorporate additional materials
Test and confirm changes	<ol style="list-style-type: none"> 16. Check all links are valid 17. Confirm with relevant personnel that all changes have been made

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - interpret and apply information in user manuals for software applications
- ability to work as a member of a production team - both independently on assignment and under direction
- technical skills sufficient to:
 - proficiently use a content management system
 - use link-checking software
 - manage files using standard naming conventions
 - apply appropriate metadata to describe documents
 - apply style sheets, templates and themes
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- W3C Accessibility standards relevant to text and images
- internet protocols and data types
- OHS standards as they relate to working on computers for periods of time

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • accurate creation of interactive media information and links • proficient use of content management systems • attention to detail.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to industry-standard authoring software, the internet and an FTP client for uploading content • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of websites where content has been updated by the candidate on a regular basis • written or oral questioning to test knowledge of internet protocols, data types and W3C Accessibility standards relevant to text and images.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFIND201A Develop and apply creative arts industry knowledge • CUFRES201A Collect and organise content for broadcast or publication.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • client • programmer and technical support people • supervisor • web manager • other specialist creative and administrative staff as appropriate.
<i>Electronic content</i> may include:	<ul style="list-style-type: none"> • audio • HTML • images (photographs and illustrations) • PDF documents • text • video • Word documents.
<i>Link-checking software</i> may include:	<ul style="list-style-type: none"> • Xenu • Linkbot • software internal to content management systems.
<i>Content management systems</i> may include:	<ul style="list-style-type: none"> • authoring tools, such as: <ul style="list-style-type: none"> • Dreamweaver • Contribute • learning management systems, such as: <ul style="list-style-type: none"> • WebCT • Blackboard • Janeson • Moodle • Sharepoint • open source database systems • other proprietary database systems.
<i>Metadata</i> may include:	<ul style="list-style-type: none"> • author • copyright • date • description

RANGE STATEMENT

	<ul style="list-style-type: none"> • subject • title • other metadata based on Dublin Core or other standards.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG302A Author interactive sequences

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to use an authoring tool to produce discrete interactive sequences. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>People responsible for developing small components to be integrated into a larger project apply the skills and knowledge described in this unit. They could be working under the direction of an interactive author or programmer to produce several web pages, or a sequence of screens for other forms of delivery.</p> <p>They need to draw on technical assistance from a programmer or other technical support personnel to produce sequences for server side technologies.</p> <p>In all cases, they are collaborating with other members of a team and need a sound understanding of the project on which they are working.</p> <p>More complex skills associated with authoring are covered in:</p> <ul style="list-style-type: none"> • CUFDIG401A Author interactive media • CUFDIG404A Apply scripting language in authoring.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Plan use of authoring tool	<ol style="list-style-type: none"> 1. Identify a range of appropriate <i>authoring software</i> 2. Discuss with <i>relevant personnel</i> the range of authoring software and their application to various <i>delivery platforms</i> 3. Discuss with relevant personnel <i>design specifications</i> of the <i>project</i> 4. Discuss with relevant personnel technical requirements of the project in order to select authoring software
Prepare to use authoring tool	<ol style="list-style-type: none"> 5. Load selected authoring software 6. Create a new file for the specified task and name file using standard naming conventions 7. Display and use tools and features of authoring software relevant to the authoring process
Produce interactive sequences	<ol style="list-style-type: none"> 8. Produce screens and layout according to design specifications applying basic <i>visual design principles</i> 9. Create <i>interactive media components</i> as required 10. Source text content and apply style sheets to format text 11. Source relevant <i>media assets</i>, optimise if required and integrate using appropriate <i>file formats</i> 12. Produce and link all components according to storyboard and apply templates or themes 13. Manipulate markup code where errors are occurring or to finetune functionality 14. Save in appropriate file format to directory
Check functionality of interactive sequence	<ol style="list-style-type: none"> 15. Check that interactive elements function with minimal error on a variety of systems 16. Present sequence to relevant personnel 17. Incorporate changes as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions and design specifications
 - interpret and apply information in user manuals for software applications
- ability to work as a member of a production team - both independently on assignment and under direction
- technical skills sufficient to:
 - use appropriate authoring software to proficiently author the sequences applying style sheets, templates or themes
 - integrate media assets for specific bandwidths
 - manage files and create appropriate directories
 - efficiently use a computer, including keyboard shortcuts
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - basic understanding of the relationship between technical and creative aspects and requirements of interactive media projects
 - basic knowledge of the features of a range of delivery platforms
 - file formats of digital media assets and basic optimisation techniques
 - HTML
 - W3C Accessibility standards relevant to text and images
- basic visual design principles as listed in the range statement
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of several discrete interactive media sequences that function as planned and demonstrate an understanding of basic visual design principles • accuracy and attention to detail in the process of developing interactive media sequences.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a range of resources, equipment and current industry-standard software, as listed in the range statement • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of interactive sequences authored by the candidate • written or oral questioning to test knowledge of file formats and delivery platforms.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG304A Create visual design components.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Authoring software</i> may include:	<ul style="list-style-type: none"> • Director • Dreamweaver • Flash • FrontPage • PageMill.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • designer • graphic designer • information architect • interaction designer • programmer • supervisor • trainer • user interface designer • other specialist staff.
<i>Delivery platforms</i> may include:	<ul style="list-style-type: none"> • CD • DVD • internet • kiosk • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • content inventory • interactive script • personas • storyboard • target audience • technical requirements, such as: <ul style="list-style-type: none"> • delivery platform • screen resolution and size • templates, style sheets and themes • bandwidth information • user interface design.

RANGE STATEMENT	
<i>Projects</i> may include:	<ul style="list-style-type: none"> • production of interactive sequences to be incorporated in a: <ul style="list-style-type: none"> • game • educational product • promotional product • information product • training product • e-commerce.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • emphasis • focal point • movement • perspective • proportion • scale • unity.
<i>Interactive media components</i> may include:	<ul style="list-style-type: none"> • backgrounds • banners • icons • interactive buttons • interactive controls • logos • text • titles • user interfaces.
<i>Media assets</i> may include:	<ul style="list-style-type: none"> • animation • audio • documents, such as PDF, Word, PowerPoint and Excel • graphics • photo images • text • video.
<i>File formats</i> may include:	<ul style="list-style-type: none"> • DIR/DCR • FLA/SWF • GIF • HTML • JPEG • MOV

RANGE STATEMENT

	<ul style="list-style-type: none"> • MPEG • PDF • PICT • RTF • TIFF • WMV.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG304A Create visual design components

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to create visual designs for a range of interactive media components.</p> <p>People in this role work closely with other members of a production team. They create visual design components in response to specifications and under the supervision of a graphic designer or producer. They contribute creative ideas to the overall concept that needs to take account of technical considerations, such as the final delivery platform.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This unit requires the application of the key principles and practice of graphic design in the context of creating visual design components that could be integrated into a range of media products, including print media.</p> <p>A graphic artist usually undertakes this role and is expected to be competent in a range of design techniques, including freehand drawing. The visual design output will nevertheless be in a digital format for inclusion in a final media product.</p> <p>More complex skills associated with visual design aspects of a whole interactive media product are covered in:</p> <ul style="list-style-type: none"> • CUFDIG402A Design user interfaces • CUFDIG403A Create user interfaces.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify work requirements	<ol style="list-style-type: none"> 1. Clarify type of visual design <i>components</i> required, in consultation with <i>relevant personnel</i> 2. In discussion with relevant personnel, identify factors that may determine or affect visual design concepts, including <i>design techniques</i> 3. Clarify in discussion with relevant personnel the target user and audience, and determine <i>format</i> and <i>delivery platform</i>
Generate and assess ideas	<ol style="list-style-type: none"> 4. Review media products, designs, images, artwork and other creative sources that may inspire visual design ideas 5. Obtain other <i>relevant information</i> that may influence design ideas 6. Generate a range of visual design ideas that are technically feasible, respond to specifications and provide creative solutions to all design issues 7. Present visual design ideas to relevant personnel using design techniques
Plan approach	<ol style="list-style-type: none"> 8. Experiment with traditional and digital imaging techniques to create required visual design components 9. Explore range of <i>typographical</i> and <i>visual design elements</i> to create the components 10. Evaluate initial design ideas and specifications against findings and discuss with relevant personnel to select final design concept 11. Select design technique and discuss with relevant personnel to ensure appropriate output format meets delivery platform requirements
Produce visual design components	<ol style="list-style-type: none"> 12. Develop structure for components based on the final design concept using selected design techniques 13. Apply <i>visual design principles</i> and <i>communication principles</i> to produce components 14. Save visual design in an appropriate format that satisfies the technical parameters determined in consultation with relevant personnel
Finalise visual design components	<ol style="list-style-type: none"> 15. Review visual design components to assess whether creative solutions meet design and technical specifications 16. Discuss and confirm with relevant personnel additional requirements or modifications and undertake any

ELEMENT	PERFORMANCE CRITERIA
	necessary amendments

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written and verbal instructions
 - work as a member of a production team - both independently on assignment and under direction
 - respond constructively to feedback received from other team members
- initiative and enterprise in the context of generating a range of feasible ideas for visual designs
- technical skills sufficient to:
 - use a range of design techniques for creating visual designs, including industry-standard graphics software
 - apply visual design and communication principles to produce visual designs
 - create visual design components in appropriate formats for a range of delivery platforms
 - manage files and directories using standard naming conventions
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members
 - basic understanding of the relationship between technical and creative aspects and requirements of media projects
- basic design principles of layout and composition
- characteristics of digital and traditional imaging
- visual design and communication principles
- typography
- copyright clearance procedures
- OHS standards as they apply to the use of computer and keyboard for periods of time

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of visual design components that respond effectively to specifications and demonstrate the application of visual design and communication principles • ability to apply a selection of the design techniques listed in the range statement • ability to work collaboratively in a team environment.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a range of resources, equipment and current industry-standard software as listed in the range statement • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of visual design components created by the candidate • written or oral questioning to test knowledge of visual design principles, communication principles and responsibilities of different members of a project team.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG303A Produce and prepare photo images

EVIDENCE GUIDE

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| | <ul style="list-style-type: none">• CUFANM301A Create 2D digital animations. |
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Components</i> may include:	<ul style="list-style-type: none"> • 2D animation objects • backgrounds • banners • basic user interfaces • colours • flow charts • icons • illustrations • interactive buttons • interactive controls • logos • simple 2D animation characters • text • titles • other components required by the project.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • art director • asset creator • client • editor • producer • programmer • supervisor • technical director • technical staff • other specialist creative and administrative staff.
<i>Design techniques</i> may include:	<ul style="list-style-type: none"> • drawing freehand • drawing on a tablet • flow charts • scanning drawings and photographs • storyboards • thumbnail sketches

RANGE STATEMENT	
	<ul style="list-style-type: none"> • using graphics software, such as: <ul style="list-style-type: none"> • Corel Draw • Corel Paint Shop Pro • Photoshop • Photoshop Elements • Illustrator • Paint.net • Fireworks.
Format may include:	<ul style="list-style-type: none"> • bitmap image • digital formats, such as: <ul style="list-style-type: none"> • GIF • JPEG • PDF • TIFF • PICT • PNG • PSD • HTML • hard copy • vector image.
Delivery platform may include:	<ul style="list-style-type: none"> • CD • DVD • film • games console • internet • kiosk • mobile phone • other wireless/mobile devices • personal digital assistant (PDA) • print media • television.
Relevant information may include:	<ul style="list-style-type: none"> • brands • logos • previous versions of components • printed materials • promotion materials • style guides • trademarks.

RANGE STATEMENT	
<i>Typographical design elements</i> may include:	<ul style="list-style-type: none"> • alignment • fonts and typefaces • kerning • leading • point and size • serif or sans serif • tracking.
<i>Visual design elements</i> may include:	<ul style="list-style-type: none"> • colour • form • line • shape • texture • tone.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • emphasis • focal point • movement • perspective • proportion • scale • unity.
<i>Communication principles</i> may include:	<ul style="list-style-type: none"> • communicates message • conveys meaning • meets audience requirements • uses functional components.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG401A Author interactive media

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to author a complete interactive media product, for example, a whole website. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>People in this role need a sound understanding of mark-up languages (HTML and XML). In addition, they need to be familiar enough with scripting languages to use script libraries in authoring software to provide interactive features.</p> <p>Authors work primarily on client-side technologies. In the construction of dynamic websites, for example, they develop the templates, themes and style sheets for the programmers and technical support team to integrate into the database and install on a web server. Authors also develop forms and form objects, but the scripting for form processing is provided by programmers.</p> <p>Authors may also use a variety of authoring software to produce complex interactions such as digital simulations, games and puzzles.</p> <p>In interactive media development, authors are working with a team, including user interface designers, interactive designers, asset creators and server-side programmers.</p> <p>Skills associated with scripting are covered in:</p> <ul style="list-style-type: none"> • CUFDIG404A Apply scripting language in authoring.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Identify multimedia elements	<ol style="list-style-type: none"> 1. Obtain <i>design specifications</i> 2. Locate content required for <i>productions</i> 3. Discuss issues of integration and formats of <i>media assets</i> with <i>relevant personnel</i> 4. Determine with relevant personnel an interactive sequence to become the prototype
Identify scope of authoring software	<ol style="list-style-type: none"> 5. Identify range of industry-standard <i>authoring software</i> 6. Assess the authoring software in relation to specified <i>delivery platform</i> 7. Discuss selection of authoring software with relevant personnel to ensure selection will meet specified outcomes 8. Select authoring software best suited to job requirements
Use authoring software	<ol style="list-style-type: none"> 9. Load authoring software 10. Create a new file for the specified task and name using standard naming conventions 11. Display and use tools and features of authoring software relevant to the authoring process
Create interactive sequence	<ol style="list-style-type: none"> 12. Slice and reassemble the user interface appropriate to the authoring software 13. Import and assemble components in appropriate sequence according to creative requirements 14. Create interactive features according to creative and technical requirements, sourcing and writing appropriate <i>markup and scripting languages</i> as required 15. Check that interactive sequence conforms to navigation design 16. Integrate media assets to ensure highest levels of technical performance 17. Check that interactive sequence conforms to loading specifications 18. Test for interoperability, eliminate all bugs and validate scripting 19. Present interactive sequence as a prototype ensuring that sequence meets creative, production and technical requirements 20. Save <i>output file formats</i> and identify for specified purpose
Evaluate interactive	<ol style="list-style-type: none"> 21. Present prototype to relevant personnel

ELEMENT	PERFORMANCE CRITERIA
prototype	22. Evaluate prototype against design specifications, including achievement of a creative and user-centred product 23. Discuss and agree on required changes 24. Assist in user trials as required 25. Evaluate feedback from user trials 26. Seek confirmation from relevant personnel to transform prototype into final product
Seek confirmation from relevant personnel to transform prototype into final product	27. Make necessary changes as indicated by user trials 28. Replicate prototype functionality to complete the interactive product 29. Make final checks to ensure sequences conform to design specifications 30. Test for interoperability, eliminate bugs and validate scripting 31. Save to specified storage system accessible to production team 32. Assist in loading product to specified platform as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and literacy skills sufficient to interpret and clarify written or verbal instructions
- ability to work as a member of a production team - both independently on assignment and under direction
- technical skills sufficient to:
 - correctly interpret design briefs, and design and technical specifications
 - proficiently use appropriate authoring and graphics software
 - seamlessly integrate and optimise a range of media assets to highest levels of technical performance
 - create and apply style sheets, templates or themes to conform with W3CAccessibility standards as they apply to client-side technology
 - manage files and directories using standard naming conventions and version control protocols
- initiative and flexibility in the context of troubleshooting and solving problems as they arise during the authoring process
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance as required

Required knowledge

- scope and applicability of industry-standard authoring software
- technical requirements for integrating digital content for use on a range of delivery platforms, including:
 - animation
 - graphics
 - text
 - video
 - audio
- user-centred design principles
- design principles of layout and composition
- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sound understanding of the relationship between technical and creative aspects and requirements of interactive media projects

REQUIRED SKILLS AND KNOWLEDGE

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| <ul style="list-style-type: none">• sound knowledge of the features of a range of delivery platforms• markup and scripting languages as they apply to relevant authoring software• W3C Accessibility standards• purpose and process of validation and the role of interoperability standards• issues and challenges that arise in developing interactive media products• OHS standards as they relate to working on computers for periods of time |
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Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of an integrated and fully functional interactive media product that: <ul style="list-style-type: none"> • conforms to design specifications • meets W3C Accessibility standards • demonstrates creativity in design solutions • collaborative approach to work.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a range of resources, equipment and current industry-standard software as listed in the range statement • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of at least two interactive products authored by the candidate • written or oral questioning to test knowledge of the processes followed to develop an interactive product and the respective roles and responsibilities of team members.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG404A Apply scripting language in authoring • ICAU4207B Apply web authoring tool to convert

EVIDENCE GUIDE	
	client data for websites.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Design specifications</i> may include:</p>	<ul style="list-style-type: none"> • creative requirements • navigation design • priority levels of W3C Accessibility standards • storyboards • technical specifications, including: <ul style="list-style-type: none"> • disk space • delivery platform • file format for final product • time • user interface design.
<p><i>Productions</i> may include:</p>	<ul style="list-style-type: none"> • e-commerce • educational product • game • information product • interactive application • promotional product • training product • website.
<p><i>Media assets</i> may include:</p>	<ul style="list-style-type: none"> • animation • audio • graphics • images • text • video.
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • animator • artist • asset creator • graphic designer • graphic interface designer • instructional designer • navigation designer • programmer

RANGE STATEMENT	
	<ul style="list-style-type: none"> • project manager • sound engineer • video producer • other specialist staff.
Industry-standard <i>authoring software</i> may include:	<ul style="list-style-type: none"> • Authorware • Breeze • Captivate • Contribute • Director • Dreamweaver • Flash • GoLive • PageMill • RoboDemo • graphics software, including: <ul style="list-style-type: none"> • Photoshop • Fireworks • Illustrator • simulation software, such as LabView.
<i>Delivery platform</i> may include:	<ul style="list-style-type: none"> • CD • DVD • internet • kiosk • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<i>Markup and scripting languages</i> may include:	<ul style="list-style-type: none"> • ActionScript • HTML • JavaScript • Lingo • XML • other proprietary scripting languages.
<i>Output file formats</i> may include:	<ul style="list-style-type: none"> • DIR/DCR • FLA/SWF • HTML • PDB • PDF • PRC • TXT

RANGE STATEMENT

	<ul style="list-style-type: none"> • WAP • XML • other proprietary formats.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG403A Create user interfaces

Modification History

Not applicable.

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit describes the performance outcomes, skills and knowledge required to create a user interface for an interactive media product.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>A person who applies the skills and knowledge outlined in this unit works to technical and creative specifications provided by a user interface designer or other designers.</p> <p>There is scope for individual creativity because a person in this role is expected to generate a range of design options that respond to concepts documented in design specifications. However, these ideas need to demonstrate a sound understanding of user-centred design principles, as well as comply with standards that apply to the specific platforms on which the user interface will be run.</p> <p>This work is undertaken with some supervision or guidance.</p> <p>Skills associated with designing user interfaces are covered in:</p> <ul style="list-style-type: none"> • CUFDIG402A Design user interfaces.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify project requirements	<ol style="list-style-type: none"> 1. Use <i>design specifications</i> in consultation with <i>relevant personnel</i> to clarify the target user, audience and <i>purpose of interactive media products</i> 2. Obtain samples of text content and <i>media assets</i> to be integrated into user interfaces 3. Determine file <i>output format</i> for <i>delivery platform</i> of interactive media products
Generate ideas	<ol style="list-style-type: none"> 4. Research interactive media product user interfaces, designs, images, artwork and other creative sources that may inspire design ideas 5. Obtain other <i>relevant information</i> that may influence or be incorporated into design ideas 6. Determine need for copyright clearance and identify potential for fair use of copyright material 7. Obtain and record copyright clearance if required 8. Use sketches and concepts in specifications as the basis for generating range of design ideas that are technically feasible and provide creative solutions to all design issues 9. Present interface design ideas to relevant personnel for discussion and feedback
Plan approach	<ol style="list-style-type: none"> 10. Select final design, incorporating feedback from relevant personnel as required 11. Identify range of appropriate industry-standard <i>graphics software</i> 12. Discuss and select graphics software with relevant personnel to ensure selection meets specified outcomes 13. Explore range of <i>typographical</i> and <i>visual design elements</i> that could be used in development of interface designs
Produce user interfaces	<ol style="list-style-type: none"> 14. Use graphics software to develop structure for user interfaces based on final design concepts 15. Source or create and integrate all graphic <i>interactive components</i> 16. Apply <i>visual design</i> and <i>communication principles</i> to the development of user interfaces 17. Ensure that user interfaces meet the <i>principles of user-centred design</i> and relevant <i>standards</i> 18. Ensure that user interfaces enhance the display of digital content

ELEMENT	PERFORMANCE CRITERIA
	19. Document styles for text and presentation for use in style sheets and templates or themes 20. Save user interfaces in an appropriate output format that satisfies technical parameters in consultation with relevant personnel
Evaluate user interfaces	21. Review user interfaces to assess effectiveness of creative solutions, appropriateness to the user and audience, and technical feasibility 22. Discuss and confirm with relevant personnel additional requirements or modifications to the overall design and undertake any necessary amendments

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions
 - interpret design specifications
 - work collaboratively in a team environment - both independently on assignment and under direction
 - present a range of user interface designs to team members for discussion and feedback
 - respond constructively to feedback received from other team members
 - complete workplace documentation
- creative skills sufficient to:
 - generate feasible ideas for user interface designs that meet specifications
 - apply visual design and communication principles to produce user interface designs
- technical skills sufficient to:
 - proficiently use graphics software to produce user interface designs
 - create user interface designs to meet standards and platform parameters
 - manage files and directories using standard naming conventions
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance when problems arise

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sound understanding of the relationship between technical and creative aspects and requirements of interactive media projects
 - issues and challenges that arise in creating user interfaces
 - standards as they apply to user interfaces, including W3C Accessibility, interoperability, usability and readability
- visual design and communication principles, including user-centred design principles
- design elements
- typography

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• copyright clearance procedures• OHS standards as they relate to working for periods of time on computers |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • creation of user interfaces that: <ul style="list-style-type: none"> • visually communicate to target user and audience • meet required standards and technical parameters of the specified platform • ability to work effectively as a member of a production team.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to design specifications typically used in industry • access to current industry-standard software as listed in the range statement • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of a range of user interfaces created by the candidate in response to design specifications • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG304A Create visual design components • CUFDIG402A Design user interfaces.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Design specifications</i> may include:</p>	<ul style="list-style-type: none"> • creative requirements • manufacturing specifications • navigation design • priority levels of W3C Accessibility standards • storyboards • technical specifications, including: <ul style="list-style-type: none"> • disk space • bandwidth • delivery platform • file format for final product • user interface design.
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • graphic designer • information architect • instructional designer • navigation designer • product designer • programmer • project manager • other specialist staff.
<p><i>Purpose</i> may include:</p>	<ul style="list-style-type: none"> • business and corporate • community • education • entertainment • personal • promotion • training.
<p><i>Interactive media products</i> may include:</p>	<ul style="list-style-type: none"> • e-commerce • educational product • game • information product • interactive application • promotional product

RANGE STATEMENT	
	<ul style="list-style-type: none"> • social network • training product • website.
<i>Media assets</i> may include:	<ul style="list-style-type: none"> • animation • audio • graphics • images • text • video.
<i>Output formats</i> may include:	<ul style="list-style-type: none"> • bitmap image • digital formats, such as: <ul style="list-style-type: none"> • GIF • JPEG • PDF • TIFF • PICT • PNG • HTML • PSD • vector image.
<i>Delivery platform</i> may include:	<ul style="list-style-type: none"> • CD/DVD • games console • internet • kiosk • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<i>Relevant information</i> may include:	<ul style="list-style-type: none"> • brands • logos • previous versions of interfaces • printed materials • promotion materials • style guides • trademarks.
<i>Graphics software</i> may include:	<ul style="list-style-type: none"> • Fireworks • Illustrator • Photoshop • Photoshop Elements.

RANGE STATEMENT	
<i>Typographical</i> elements may include:	<ul style="list-style-type: none"> • alignment • fonts and typefaces • kerning • leading • point and size • serif or sans serif • tracking.
<i>Visual design elements</i> may include:	<ul style="list-style-type: none"> • colour • form • line • shape • texture • tone.
<i>Interactive components</i> may include:	<ul style="list-style-type: none"> • backgrounds • banners • icons • interactive buttons • interactive controls • logos • menus • search boxes.
<i>Visual design principles</i> may include:	<ul style="list-style-type: none"> • balance • emphasis • focal point • movement • perspective • proportion • scale • unity.
<i>Communication principles</i> may include:	<ul style="list-style-type: none"> • communicates message • conveys meaning • meets audience requirements • uses functional components.
<i>Principles of user-centred design</i> may include:	<ul style="list-style-type: none"> • clear feedback and instructions • consistent behaviour and design for: <ul style="list-style-type: none"> • common interface elements • menu systems • search boxes • layout

RANGE STATEMENT	
	<ul style="list-style-type: none"> • iconography • typography • colour • easy exit if wrong path selected • plain English for text and instructions • simplicity • support for work tasks.
<i>Standards</i> may include:	<ul style="list-style-type: none"> • interoperability • readability • usability • W3C Accessibility.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units	

CUFDIG404A Apply scripting language in authoring

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to write and apply scripting language in authoring interactive media.</p> <p>An interactive media author is often required to integrate and develop basic scripting routines that are either external or internal to authoring software. This may be necessary to enhance levels of interaction or to remedy errors in the functionality of an interactive media product developed using authoring software.</p> <p>This unit outlines the skills and knowledge required by interactive media authors to write and customise their own code. These routines are relevant to client-side technology only.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>In all interactive media development, authors are working with a team, including primarily a user interface designer, asset creators and programmers.</p> <p>Markup languages such as HTML and XML are covered in:</p> <ul style="list-style-type: none"> • CUFDIG302A Author interactive sequences • CUFDIG401A Author interactive media.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Investigate scripting options	<ol style="list-style-type: none"> 1. Obtain <i>design specifications</i> 2. Identify areas where <i>scripting languages</i> may be required 3. Locate script libraries for pre-written scripts 4. Identify areas where customised or new scripts may be necessary 5. Present and discuss scripting options with <i>relevant personnel</i> to ensure compliance with design specifications
Write scripts	<ol style="list-style-type: none"> 6. Scope control structures and algorithms using pseudo-code and flow charts 7. Ensure objects and assets are in place and identified by appropriate labels 8. Identify and recommend event handlers 9. Write code using correct syntax to meet functional requirements 10. Write comments to document coding where necessary 11. Use <i>authoring environment</i> where appropriate to check code and syntax 12. Save code
Integrate scripting language	<ol style="list-style-type: none"> 13. Source and integrate scripts into authoring environment 14. Ensure <i>scripted elements</i> comply with all navigation and graphic design interface considerations 15. Eliminate or merge redundant code
Test scripting language	<ol style="list-style-type: none"> 16. Test routines to verify script fulfils requirements 17. Conduct tests to ensure that scripted elements conform to required technical specifications 18. Test for faults and document findings 19. Use standard techniques to remove faults
Evaluate scripting language	<ol style="list-style-type: none"> 20. Liaise with relevant personnel to evaluate process and record decisions 21. Archive suitable and relevant scripts for future use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and literacy skills sufficient to:
 - interpret and clarify written or verbal instructions and design specifications
 - interpret and apply information in user manuals for software applications
- ability to work as a member of a production team - both independently on assignment and under direction
- initiative and flexibility in troubleshooting and solving problems as they arise during the authoring process
- technical skills sufficient to:
 - write and apply scripting language in authoring a range of interactive media and behaviours
 - efficiently use a computer, including keyboard shortcuts
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - meet deadlines
 - seek expert assistance as required

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sound understanding of the relationship between technical and creative aspects and requirements of interactive media projects
 - sound knowledge of the features of a range of delivery platforms
 - issues and challenges that arise in developing interactive media products
 - file formats of digital media assets and basic optimisation techniques
 - Document Object Model (DOM) and Object Oriented Programming (OOP)
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • ability to write code to meet functional requirements • correct and appropriate integration of scripting language into the process of authoring interactive media products.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to a range of resources, equipment and current industry-standard software as listed in the range statement • appropriate authoring environments • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of at least two interactive products for which the candidate has written and integrated code • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG401A Author interactive media.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Design specifications</i> may include:</p>	<ul style="list-style-type: none"> • delivery platforms, such as: <ul style="list-style-type: none"> • internet • CD • mobile devices • interface design • navigation design • storyboards and flow charts. • technical specifications, such as: <ul style="list-style-type: none"> • memory/RAM • bandwidth • file formats • computer operating systems • browsers • user requirements.
<p><i>Scripting languages</i> may include:</p>	<ul style="list-style-type: none"> • ActionScript • Javascript • Lingo • MEL • Perl • VBScript • other proprietary scripting languages.
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • designers • interactive authors • IT support • programmers • other specialist technical staff.
<p><i>Authoring environment</i> may include:</p>	<ul style="list-style-type: none"> • authoring software, such as: <ul style="list-style-type: none"> • Flash • Director • browser • text editor.

RANGE STATEMENT*Scripted elements* may include:

- calculations
- changes to browser windows, such as pop-up and colour
- cursor changes
- forms that include elements, such as:
 - radio buttons
 - text fields
 - check boxes
 - list menu
- hot spot interactions
- pop-up windows/messages
- preloaded images
- rollover buttons
- other behaviours.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG501A Coordinate the testing of interactive media products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage the testing of interactive media products.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>This is a central team role, working with the whole production team, including designers, authors, programmers and graphic artists.</p> <p>In larger projects and particularly in games, testing is a continuous process and may have a quality assurance unit devoted to testing.</p> <p>A person in this position plans and coordinates the testing process and is also responsible for analysing testing results, writing reports and communicating the results to appropriate members of the production team.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Determine the criteria for testing	<ol style="list-style-type: none"> 1. Define <i>testing criteria</i> that ensure products meet technical and quality requirements 2. Identify with <i>relevant personnel</i> the <i>production points</i> at which development will be measured 3. Document and communicate testing criteria to relevant personnel
Plan an approach for product testing	<ol style="list-style-type: none"> 4. Identify the various <i>testing methods</i> relevant for <i>interactive media products</i> 5. Determine characteristics and appropriateness of testing methods to be used during development and on completion 6. Consider testing methods in relation to appropriate <i>testing strategy</i> 7. Develop a plan for testing products at specified points during development and on completion 8. Establish <i>records system</i> to document testing results, including problems and faults
Test interactive media at specified production points	<ol style="list-style-type: none"> 9. Determine progress towards completion of identified production points 10. Coordinate testing of products at identified production points 11. Apply testing methods to ensure that products meet creative, production and technical requirements 12. Record problems and faults detected by testing and remedial steps taken in records system 13. Resolve problems and faults detected during testing in accordance with agreed project or industry practice 14. Evaluate final products against the previously determined criteria 15. Document the testing process 16. Convey summarised evaluation report to relevant production personnel
Evaluate the testing process	<ol style="list-style-type: none"> 17. Identify testing methods that were successful and those that led to difficulties 18. Evaluate the testing process and records system 19. Document findings to inform subsequent projects

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify project specifications
 - interpret and analyse information and statistics, and write summary reports
 - convey information to others in the production team
 - work as a member of a production team, including providing leadership in relation to product testing
- organisational skills sufficient to:
 - plan testing processes
 - coordinate testing staff
 - establish records systems
- ability to address and solve problems and challenges in a timely and collaborative manner
- self-management skills sufficient to:
 - prioritise work tasks
 - work under pressure and meet deadlines
 - seek expert assistance as required

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sound understanding of the relationship between technical and creative aspects and requirements of interactive media projects
 - issues and challenges that arise in testing interactive media products
 - testing criteria
 - range of methods for testing interactive media products
- OHS standards as they apply to computers and environments in which testing may be conducted

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • documented plans for testing interactive media products • ability to identify appropriate testing methods for specific interactive media products • analysis of test results • summary reports containing test results • effective coordination of the testing process, including ability to work collaboratively with team members.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • development of more than one test plan to ensure that skills can be adapted to different circumstances • development of a test plan within commercially-realistic time constraints • involvement of and interaction with others to reflect the collaborative nature of the testing process • access to interactive media products under development • access to equipment used for testing • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of at least two test plans developed by the candidate • evaluation of at least two test reports written by the

EVIDENCE GUIDE	
	<p>candidate</p> <ul style="list-style-type: none">written or oral questioning to test knowledge of the process followed to test an interactive media product, testing methods, testing criteria and the respective roles and responsibilities of team members.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">BSBPMG510A Manage projects.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Testing criteria may include:

- accessibility
- bug detection
- controls
- ease of learning
- effectiveness
- efficiency
- functionality, including flow
- interoperability
- learning outcomes
- levels of difficulty
- performance
- reliability
- satisfaction
- security
- usability.

Relevant personnel may include:

- author
- game designer
- game level designer
- information architect
- instructional designer
- interaction designer
- producer
- programmer
- user interface designer
- visual artist
- other specialist staff.

Production points may include:

- alpha
- beta
- completion
- continuous
- milestone
- prototype

RANGE STATEMENT	
	<ul style="list-style-type: none"> • staged.
<i>Testing methods</i> may be:	<ul style="list-style-type: none"> • aggressive • automated • black box • card sorting • concept • debugging • focus group • heuristic analysis • inspection • platform testing • prototyping • regression • survey • user trial • visual impact • white box.
<i>Interactive media products</i> may include:	<ul style="list-style-type: none"> • e-commerce • e-learning resource • game • information product • promotional product • training product • web environments.
<i>Testing strategy</i> may be determined by:	<ul style="list-style-type: none"> • complexity of the project • money available • project specifications • time available.
<i>Records system</i> may include:	<ul style="list-style-type: none"> • metadata that includes: <ul style="list-style-type: none"> • description of fault • identification of code • user responses • written or verbal comments • quantitative data • remedial action taken • retest result • date • tester's details • questionnaire

RANGE STATEMENT

- | | |
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| | <ul style="list-style-type: none"> • survey. |
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG502A Design web environments

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to design web environments.</p> <p>A web environment may consist of one or many web applications and technologies integrated in various combinations.</p> <p>The design is focused on how these applications and technologies are combined and used, and the way in which interactive content is accessed by users.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>A person in this role works with clients to develop design specifications for web environments.</p> <p>Other specialised designers, graphic artists and programmers working as a team undertake the development of design specifications.</p> <p>Higher order skills associated with developing and documenting concepts that could be used as the basis for design specifications are covered in:</p> <ul style="list-style-type: none"> • BSBCRT501A Originate and develop concepts.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Determine project requirements	<ol style="list-style-type: none"> 1. Analyse project brief to identify <i>purpose</i> of, and target audience for, web environments 2. Consult with clients to clarify <i>project requirements</i> 3. Identify target <i>audience characteristics</i> and determine how these influence all aspects of design 4. Identify content to be incorporated and generated and how this content is to be accessed, searched or delivered
Research and select web environments	<ol style="list-style-type: none"> 5. Research <i>web environments</i> and analyse their potential 6. Analyse how these web environments meet audience and content requirements 7. Identify issues relating to <i>delivery platform</i> and <i>standards</i>, and determine how these may affect web environment options 8. Consult <i>relevant personnel</i> to ensure that all possible web environment options are considered 9. Select web environments that will meet creative, production and technical requirements
Draft design specifications	<ol style="list-style-type: none"> 10. Design the architecture of web environments to show interrelationship between environment components 11. Identify each web environment and specify its individual interactive features, functionality and navigation and its relationship to design as a whole 12. Identify content components and specify how these will be logically structured and integrated into and/or generated by web environments 13. Specify levels of access permissions to web environments as required 14. Specify <i>media assets</i> as required 15. Specify user interfaces of web environments 16. Specify <i>production requirements</i>, including appropriate <i>testing strategies</i> 17. Write draft <i>design specifications</i> to include all relevant advice to design and development teams 18. Discuss draft design specifications with client to ensure designs are consistent with project briefs
Review and confirm design specifications	<ol style="list-style-type: none"> 19. Review designs against required project outcomes, as well as client and audience needs 20. Review designs to ensure they meet creative and technical requirements

ELEMENT	PERFORMANCE CRITERIA
	21. Adjust designs as necessary after discussions with relevant personnel 22. Clarify <i>legislative or ownership issues</i> to comply with production and organisational requirements 23. Confirm with client acceptance of design specifications, including deliverables, milestones and timelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written proposals and creative briefs
 - work collaboratively in a team environment
 - present ideas for the design of web environments for discussion and feedback from team members
 - clearly and concisely document specifications for the design of web environments
- initiative, enterprise and creativity in the context of:
 - generating ideas for the design of web environments
 - thinking laterally when developing concepts
 - undertaking background research into web environments
 - maintaining design integrity
 - finding solutions to problems encountered when designing web environments
 - finding ways to minimise the effect of technical constraints
 - ensuring there is an intuitive and logical flow to the navigation of web environments
- technical skills sufficient to create storyboards, maps and other diagrams to specify the architecture and navigation of web environments
- self-management skills sufficient to:
 - meet deadlines
 - provide appropriate and timely documentation

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sequence and interrelationship of stages in the process of developing web environments
 - broad range of web applications and technologies
 - web design and its relationship to web optimisation strategies
 - web standards, including SCORM, usability, W3C Accessibility and interoperability
 - issues and challenges that arise in designing and developing web environments
- typical formats and techniques for documenting the design of web environments
- OHS standards as they relate to working for periods of time on computers

REQUIRED SKILLS AND KNOWLEDGE

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|---|
| <ul style="list-style-type: none">• intellectual property rights and copyright clearance procedures |
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Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • design specifications for web environments that: <ul style="list-style-type: none"> • are well documented and clearly presented • meet client and audience requirements • are technically feasible • ability to work effectively as a member of a production team.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • practical demonstration of skills through the design of web environments for at least two projects • access to project briefs on which designs can be based • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of designs for web environments documented by the candidate and of their effectiveness in terms of meeting project requirements • observation of a candidate presenting his/her design for web environments to team members and explaining how it meets requirements • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- CUFDIG505A Design information architecture
- CUFPPM404A Create storyboards.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Purpose</i> may include:</p>	<ul style="list-style-type: none"> • business and corporate • community • education • entertainment • government • information and news • knowledge management • personal • promotion • training.
<p><i>Project requirements</i> may include:</p>	<ul style="list-style-type: none"> • access to facilities and resources • budget • deliverables • milestones • personnel, including: <ul style="list-style-type: none"> • number • availability • expertise prototyping • technical issues, including: <ul style="list-style-type: none"> • delivery platform • disk space • bandwidth • testing plan • timelines.
<p><i>Audience characteristics</i> may include:</p>	<ul style="list-style-type: none"> • computer literacy • demographics, such as: <ul style="list-style-type: none"> • age • gender • education • occupation • location

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cultural background • hobbies • interests • internet literacy • language, literacy and numeracy • personas • specific needs - physical or psychological.
<i>Web environments</i> may include one or combinations of:	<ul style="list-style-type: none"> • audio streaming • blog • chat • conferencing tool • content learning management system (CLMS) • content management system (CMS) • database repository • discussion forum • dynamic website • electronic newsletter • interactive calendar • interactive form • learning management system (LMS) • podcast • RSS feed • static website • TiVo • video streaming • other online collaboration and social network tools.
<i>Delivery platform</i> may include:	<ul style="list-style-type: none"> • digital television set • internet • mobile phone • other wireless/mobile devices • personal digital assistant (PDA).
<i>Standards</i> may include:	<ul style="list-style-type: none"> • interoperability • SCORM • usability • W3C Accessibility.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • art director • client • educator • graphic designer

RANGE STATEMENT	
	<ul style="list-style-type: none"> • head of department • information architect • instructional designer • programmer • technical director • technical staff • other specialist creative and administrative staff.
<i>Media assets</i> may include:	<ul style="list-style-type: none"> • animation • audio • audio/visual files, such as PowerPoint • graphics • images • text • text documents, such as PDF and Word • video.
<i>Production requirements</i> may include:	<ul style="list-style-type: none"> • levels of expertise • production deadlines • production schedules • production team • production values • testing strategies.
<i>Testing strategies</i> may include:	<ul style="list-style-type: none"> • alpha • beta • completion • continuous • milestone • prototype • staged.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • content inventory • diagrams • flow charts • maps • navigation charts • plans • storyboards • technical specifications • user interface mock-ups • wire frames.

RANGE STATEMENT

Legislative or ownership issues may be:

- access and equity
- clearances
- confidentiality
- copyright
- intellectual property rights
- non-disclosure agreements
- open source licensing
- ownership of assets
- product licensing.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units	

CUFDIG503A Design e-learning resources

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to design an e-learning resource. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	<p>The skills and knowledge outlined in this unit are applied by people working in education or training organisations, or in media production companies that specialise in the development of e-learning resources.</p> <p>The focus of this unit is different to that of the two units in the Training and Assessment Training Package that deal with e-learning resources. Namely:</p> <ul style="list-style-type: none"> • TAADES503B Research and design e-learning resources • TAADES504B Develop and evaluate e-learning resources. <p>These two units are written from the perspective of people in training organisations who are responsible for developing and delivering learning materials to be included in e-learning resources.</p> <p>CUFDIG503A is written from the perspective of a department or company responsible for developing the design of broad ranging e-learning resources in consultation with clients. However, there are synergies between the units and it may be appropriate to combine them in learning programs.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Identify project requirements	<ol style="list-style-type: none"> 1. With reference to project briefs, identify <i>target learner characteristics</i> and their impact on the way resources are designed 2. Identify <i>content</i> to be incorporated or generated and how this content is to be accessed or delivered 3. Identify <i>delivery platforms</i> and implications that these will have on selection of <i>media assets</i> 4. Consult with clients to clarify <i>project requirements</i>
Research and select instructional design model	<ol style="list-style-type: none"> 5. Analyse content to clearly establish learning outcomes and assessment strategies 6. Research a range of <i>instructional design models</i>, considering their characteristics, differences and ability to meet briefs 7. Identify <i>standards</i> that may apply for a range of delivery platforms 8. Identify <i>learning styles</i> of target learners and consider how these may impact on the design 9. Consider a range of <i>learning activities</i> that best meet learning objectives and needs of target learners 10. Consult with <i>relevant personnel</i> to ensure that a full range of instructional design models has been identified and sourced 11. Select the instructional design model that best meets learning needs and project requirements
Draft design specifications	<ol style="list-style-type: none"> 12. Use selected instructional design model to design the overall architecture of an e-learning resource 13. Design sequences and interactivity based on content and project requirements 14. Develop content templates for content experts if required 15. Specify media assets as required 16. Specify <i>communication and collaborative tools</i> as required 17. Specify user interface of the e-learning resource 18. Specify <i>production requirements</i>, including appropriate <i>testing strategies</i> 19. Write draft <i>design specifications</i> to include relevant advice to design and development teams 20. Discuss draft design specifications with clients to ensure

ELEMENT	PERFORMANCE CRITERIA
	designs are consistent with project briefs
Finalise design specifications	21. Review designs against required project outcomes and target learner needs 22. Review designs to ensure they meet creative and technical requirements 23. Adjust designs as necessary after discussions with relevant personnel 24. Clarify <i>legislative or ownership issues</i> to comply with production and organisational requirements 25. Confirm with clients acceptance of design specifications, including deliverables, milestones and timelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify project briefs
 - establish rapport with clients
 - work collaboratively in a team environment to find the best design solutions
 - clearly and concisely document specifications for the design of e-learning resources
- initiative and enterprise in the context of:
 - generating ideas for the design of e-learning resources that meet the needs of target learners
 - thinking laterally when developing ideas
 - selecting the most appropriate instructional design model
 - maintaining design integrity
- technical skills sufficient to:
 - create storyboards, maps and other diagrams to specify the architecture and navigation of e-learning resources
 - construct material in a logical order, one sequence flowing on from another
 - develop techniques for holding learner's attention
- self-management skills sufficient to:
 - meet deadlines
 - provide appropriate and timely documentation

Required knowledge

- typical formats and techniques for documenting the design of e-learning resources
- OHS standards as they relate to working for periods of time on computers
- range of learning models
- way in which various learning styles impact on learning models
- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sequence and interrelationship of stages in the process of developing e-learning resources
 - web standards, including usability, W3C Accessibility and interoperability
 - web applications and technologies that are relevant to e-learning
 - issues and challenges that arise in designing and developing e-learning resources

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• intellectual property rights and copyright clearance procedures |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • design specifications for e-learning resources that: <ul style="list-style-type: none"> • are well documented and clearly presented • meet learner requirements • are technically feasible • ability to work effectively as a member of a production team.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • practical demonstration of skills through the design of at least two e-learning resources for delivery on different platforms • access to project briefs on which designs can be based • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of designs for e-learning resources documented by the candidate and of their effectiveness in terms of meeting project requirements • role-play involving a candidate presenting his/her design for an e-learning resource to a client and explaining how it meets requirements • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit.

EVIDENCE GUIDE	
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Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none">• CUFPPM404A Create storyboards.
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Target learner characteristics may include:

- computer literacy
- demographics, such as:
 - age
 - gender
 - education
 - occupation
 - location
 - cultural background
- hobbies
- interests
- internet literacy
- language, literacy and numeracy levels
- learning environment, such as:
 - workplace
 - classroom
 - home
 - community
 - mobile
- personas
- preferred learning styles
- skills level
- specific needs - physical or psychological.

Content may include:

- audio/visual materials
- curriculum documents, such as:
 - Training Packages and their units of competency
 - modules
- guides
- manuals
- PowerPoint presentations
- pre-existing learning materials
- printed materials

RANGE STATEMENT	
	<ul style="list-style-type: none"> • reference texts • training handouts.
<i>Delivery platform</i> may include:	<ul style="list-style-type: none"> • CD/DVD • digital television set • internet, including: <ul style="list-style-type: none"> • websites • blogs • wikis • database repositories • learning management systems, such as: <ul style="list-style-type: none"> • Blackboard • WebCT • Janeson • Moodle <ul style="list-style-type: none"> • virtual classrooms • conferencing • discussion forums • flash-based • chat • podcasting • video streaming • audio streaming • other online collaboration tools • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<i>Media assets</i> may include:	<ul style="list-style-type: none"> • animations • audio • audio/visual files, such as PowerPoint • graphics • images • text documents, such as PDF and Word • video.
<i>Project requirements</i> may include:	<ul style="list-style-type: none"> • access to facilities and resources • assessment strategies • budget • deliverables • learner characteristics • milestones

RANGE STATEMENT	
	<ul style="list-style-type: none"> • personnel, including: <ul style="list-style-type: none"> • number • availability • expertise • prototyping • technical issues, including: <ul style="list-style-type: none"> • delivery platform • disk space • bandwidth • testing plan • timelines.
<i>Instructional design models</i> include:	<ul style="list-style-type: none"> • exploration • game • instructional • lock step • mentoring • problem-solving • puzzle • simulation • story-telling.
<i>Standards</i> may include:	<ul style="list-style-type: none"> • AQTF • interoperability • SCORM • usability • W3C Accessibility.
<i>Learning styles</i> may include:	<ul style="list-style-type: none"> • activist • learning preferences, including auditory, visual or sensory • pragmatist • reflective • theorist
<i>Learning activities</i> may include:	<ul style="list-style-type: none"> • blogs • case studies • checklists • discussions and debates • games • interviews • media presentations • problems

RANGE STATEMENT	
	<ul style="list-style-type: none"> • projects • quizzes • research reports • role-plays • simulations • tasks • work-based practical activities.
<i>Relevant personnel</i> may include:	<ul style="list-style-type: none"> • art director • client • content expert • educator • graphic designer • head of department • information architect • language, literacy and numeracy specialist • programmer • reference group member • technical director • technical staff • other specialist creative and administrative staff.
<i>Communication and collaborative tools</i> may include:	<ul style="list-style-type: none"> • blogs • chat • discussion forums • messaging • TiVo • wikis • other social software tools.
<i>Production requirements</i> may include:	<ul style="list-style-type: none"> • levels of expertise • production deadlines • production schedules • production team • testing strategies.
<i>Testing strategies</i> may include:	<ul style="list-style-type: none"> • alpha • beta • completion • continuous • milestone • prototype • staged.

RANGE STATEMENT	
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • content inventory • diagrams • flow charts • maps • navigation charts • plans • storyboards • technical specifications • user interface mock-ups • wire frames
<i>Legislative or ownership issues</i> may be:	<ul style="list-style-type: none"> • access and equity • clearances • confidentiality • copyright • intellectual property rights • non-disclosure agreements • open source licensing • ownership of assets • product licensing.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units	

Co-requisite units		

CUFDIG504A Design games

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to design games and document the process for developing them.</p> <p>Game design requires a high degree of collaboration between script writers, programmers and graphic designers.</p> <p>Low-end games can be constructed using interactive authoring tools, but for video game productions, designers need to work with high level programmers to ensure that designs are technically feasible.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>A lead designer typically applies the skills and knowledge described in this unit, which relate to generating and then working on a game idea until the mechanics and design of the game are fully documented. A lead designer communicates the vision for a game to the rest of the team, takes ideas submitted during design meetings and analyses them to ensure they fit the game's intended objectives. This vision is captured in the game design document.</p> <p>Depending on the size of an enterprise, a lead designer may supervise assistant or level designers and would typically report to a design or creative director.</p> <p>Skills associated with story-telling are covered in:</p> <ul style="list-style-type: none"> • CUFWRT402A Write extended stories.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

<p>Employability skills</p>	<p>This unit contains employability skills.</p>
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Identify project requirements	<ol style="list-style-type: none"> 1. Confirm the objective and desired outcomes of a game proposal or brief in consultation with relevant personnel 2. Identify factors that may have an impact on how a game is designed 3. Clarify target audience to determine format and delivery platform of the game through discussion with relevant personnel
Research games and generate ideas	<ol style="list-style-type: none"> 4. Select state of the art games from different genres to play as a source of inspiration 5. Search game literature for each game and identify the games' objectives 6. Generate range of ideas for game designs that are technically feasible, respond to the proposal or brief, and provide creative solutions to design issues 7. Discuss ideas and collaborate, as required, with relevant personnel to ensure contribution of a range of ideas and creative solutions to initial concepts
Select a game genre	<ol style="list-style-type: none"> 8. Identify and present a range of game genres to relevant personnel for consideration in terms of their characteristics, differences and ability to meet requirements of proposal or brief 9. Consult with relevant personnel to ensure that a full range of genres has been identified and sourced 10. Select the game genre that best meets the creative, technical and production requirements of proposal or brief
Draft game design document	<ol style="list-style-type: none"> 11. Establish the game strategy outcomes 12. Use design techniques to develop the structure of a game ensuring that all elements, including style and game mechanics, are fully documented 13. Use a range of criteria to determine the scope of a prototype to be used in the development phase 14. Ensure that the prototype selected is capable of testing the effectiveness of the proposed game 15. Include a register of game assets in consultation with relevant personnel 16. Present draft game design document for discussion with and feedback from other team members
Finalise game design	<ol style="list-style-type: none"> 17. Re-evaluate game design objectives on the basis of feedback on the prototype and draft game design

ELEMENT	PERFORMANCE CRITERIA
document	document 18. Discuss and confirm additional requirements or modifications to the game design with relevant personnel 19. Specify the game <i>production specifications</i> , including appropriate <i>testing strategies</i> 20. Write final game design document to reflect all additional requirements or modifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written proposals and creative briefs
 - work collaboratively in a team environment
 - present game design ideas for discussion and feedback from team members
 - document game design specifications clearly and concisely
- initiative, enterprise and creativity in the context of:
 - generating innovative ideas for game designs
 - thinking laterally when developing concepts
 - undertaking background research into game ideas
 - maintaining design integrity
- technical skills sufficient to create complex designs using storyboards, maps and other diagrams to specify the architecture and navigation of game mechanics
- self-management skills sufficient to:
 - meet deadlines
 - provide appropriate and timely documentation

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - sound understanding of game theory, including traditional games
 - broad range of game genres and styles
 - technical parameters of various games platforms
 - issues and challenges that arise in designing games
- research methods for staying abreast of the latest changes and design enhancements
- requirements of game play design documents
- typical formats and techniques for documenting game designs
- intellectual property rights and copyright clearance procedures
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of original and innovative concepts for games • design of game play methods that are compelling for the user and technically feasible • production of clear and well-presented game design documentation • ability to work effectively as a member of a design team.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • practical demonstration of skills through the design of a variety of games for at least two platforms • access to game proposals or briefs on which designs can be based • access to a range of games for viewing • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of game designs documented by the candidate and of their quality in terms of meeting creative briefs • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit • case studies to assess ability to develop designs for different types of games.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- CUFPPM404A Create storyboards
- BSBCRT501A Originate and develop concepts.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant personnel may include:

- art director
- client
- designers
- director
- graphic artist
- head of department
- producer
- programmer
- publisher
- script writer
- software engineer
- other technical and creative staff.

Factors may include:

- availability of personnel
- availability of resources
- available budget
- complexity of proposed game
- intellectual property
- need to attract finance
- production schedule
- production values
- technical parameters, including:
 - technology constraints
 - console
 - platform
 - bandwidth
 - memory/RAM
- timelines
- user and audience.

Delivery platforms may include:

- CD/DVD
- digital television set
- games console
- internet

RANGE STATEMENT	
	<ul style="list-style-type: none"> • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<i>State of the art games</i> may include:	<ul style="list-style-type: none"> • best selling games • games that show unique and innovative approaches.
<i>Game literature</i> may include:	<ul style="list-style-type: none"> • game design books • game post-mortems • magazine, newspaper and journal articles • previews and reviews • strategy guides • user manuals • walkthroughs • other online game resources.
<i>Game genres</i> may include:	<ul style="list-style-type: none"> • adventure • arcade • first person shooter • massively multiplayer online • mazes • platforms • puzzles • racing • rhythm • role playing • simulation • sport • strategy • third person shooter.
<i>Design techniques</i> may include:	<ul style="list-style-type: none"> • drawing • flow chart • scanning • storyboard • using image and background generating tools.
<i>Game mechanics</i> may include:	<ul style="list-style-type: none"> • environment and object interactions • environment dynamics • game objects • game play elements that may include: <ul style="list-style-type: none"> • skill levels • judgements

RANGE STATEMENT	
	<ul style="list-style-type: none"> • choices • decisions • codes • rules • levels of progression • goals • actions • events • levels of difficulty • scoring • calculation of scoring • user control • user interaction • options for single player or multiplayer • customisation • key systems • object actions • object to object interactions.
<i>Criteria</i> may include whether the prototype:	<ul style="list-style-type: none"> • can be demonstrated to a specialist target group • can be used for promotional purposes • can demonstrate the full potential of the game • can sell a concept to potential investors • is appropriate for the chosen genre and style.
<i>Testing the effectiveness</i> of the prototype may include:	<ul style="list-style-type: none"> • comparing game design with original objectives • group discussion techniques • identifying any logical inconsistencies in: <ul style="list-style-type: none"> • design • game timing • story-lines • measuring the levels of user satisfaction • paper and pencil techniques (dry running).
<i>Game assets</i> may include:	<ul style="list-style-type: none"> • animations • audio, including: <ul style="list-style-type: none"> • sound effects • dialogue • narration • music

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cut scenes • titles • video sequences.
<i>Game design document</i> may include:	<ul style="list-style-type: none"> • agent architectures • artificial intelligence • asset register • background story • comprehensive designs for each mission and level • decision-making systems • game mechanics • game tools • graphics • inventories • overview • production specifications • scripts • spatial design • storyboard and flow chart • synopsis • title • user interface • walkthroughs.
<i>Production specifications</i> may include:	<ul style="list-style-type: none"> • budget • intellectual property • levels of staff expertise • production schedule • production values • size and composition of the development team • technology constraints • testing strategies • timelines.
<i>Testing strategies</i> may include:	<ul style="list-style-type: none"> • alpha • beta • completion • continuous • milestone • prototype • staged.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUFDIG505A Design information architecture

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to design the information architecture of an interactive media product.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
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Application of the Unit

Application of the unit	<p>Depending on the size and type of organisation, information architects or senior web designers apply the skills and knowledge outlined in this unit. They work collaboratively with senior personnel, such as creative directors and other members of a development team, to develop the content, structure and navigation of interactive media products.</p> <p>Liaison with clients and team members is a key feature of this role, as is prototype testing (wire framing), which is undertaken as part of the design process. Attention to detail is also required to ensure that all aspects of content are effectively addressed.</p> <p>Skills associated with testing interactive media products are covered in:</p> <ul style="list-style-type: none"> • CUFDIG501A Coordinate the testing of interactive media products.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Identify project requirements	<ol style="list-style-type: none"> 1. Discuss concepts with <i>relevant personnel</i> to ensure that design briefs are fully understood 2. Identify technical parameters of interactive media products, including <i>delivery platform</i> 3. Identify target <i>audience characteristics</i> 4. Identify <i>content</i> to be integrated into or generated by interactive media products
Classify and organise content	<ol style="list-style-type: none"> 5. Research and select appropriate thesaurus and <i>metadata standards</i> if relevant 6. <i>Organise content</i> and construct a content inventory detailing levels of hierarchy using <i>classification techniques</i> 7. Assign labels to content that are appropriate and meaningful for target audiences 8. Identify content <i>search requirements</i> 9. Discuss proposed content classification with relevant personnel to ensure that it meets <i>project requirements</i>
Draft information architecture design specifications	<ol style="list-style-type: none"> 10. Sketch overall architecture showing the relationship between interactive content 11. Design forms that detail content input process if required 12. Specify search functionality and search return displays 13. Construct <i>wire frame</i> of the content architecture and navigation pathways 14. Write draft <i>design specifications</i> to include all relevant advice to development teams 15. Present draft design specifications for discussion with and feedback from other team members 16. Amend draft design specifications to accommodate feedback as required 17. Discuss final draft design specifications with clients to ensure designs are consistent with project requirements
Finalise information architecture designs	<ol style="list-style-type: none"> 18. Conduct usability test using appropriate <i>testing techniques</i> 19. Incorporate design changes to information architecture in design specifications 20. Obtain final agreement from relevant personnel for finished design

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret and clarify written proposals and creative briefs
 - work collaboratively in a team environment
 - present information architecture designs for discussion and feedback from team members and clients
 - document clearly and concisely the information architecture design for an interactive media product
- initiative and flexibility in the context of:
 - analysing, processing and classifying content
 - finding solutions to content classification problems
 - finding ways to minimise the effect of technical constraints
 - ensuring there is an intuitive and logical flow to the navigation of an interactive media product
- technical skills sufficient to:
 - create complex designs using storyboards, maps and other diagrams to specify the architecture and navigation of interactive media products
 - construct wire frames
- self-management skills sufficient to:
 - meet deadlines
 - provide appropriate and timely documentation

Required knowledge

- industry knowledge, including:
 - roles and responsibilities of project team members, e.g. designers, content creators, information architects, programmers and coders
 - content classification techniques of taxonomy and folksonomy
 - metadata standards as they apply to specific products
 - technical parameters of various platforms and how these impact on information architecture
 - issues and challenges that arise in designing games
- understanding the way users scan and read or view interactive content
- typical formats and techniques for documenting information architecture designs
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • clearly documented and user-tested design specifications for the information architecture of an interactive media product • ability to work effectively as a member of a design team • high level of attention to detail.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • practical demonstration of skills through the design of information architecture for at least two interactive media products • access to interactive media proposals or briefs on which designs can be based • that information architecture designs can be tested • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of information architecture designs documented by the candidate and of their effectiveness in terms of meeting requirements • observation of a candidate presenting his/her information architecture design to team members and explaining how it meets requirements • written or oral questioning to test knowledge as listed in the required skills and knowledge section of this unit

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• case studies to assess ability to develop information architecture designs for a range of interactive media products.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">• CUFDIG501A Coordinate the testing of interactive media products• CUFDIG502A Design web environments• CUFDIG503A Design e-learning resources• CUFDIG504A Design games• CUFDIG506A Design interaction.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • art director • client • educator • graphic designer • head of department • instructional designer • programmer • technical director • technical staff • user interface designer • other specialist creative and administrative staff.
<p><i>Delivery platform</i> may include:</p>	<ul style="list-style-type: none"> • CD/DVD • games console • internet • kiosk • mobile phone • personal digital assistant (PDA) • other wireless/mobile devices.
<p><i>Audience characteristics</i> may include:</p>	<ul style="list-style-type: none"> • computer literacy • demographics, such as: <ul style="list-style-type: none"> • age • gender • education • occupation • location • cultural background • hobbies • interests • internet literacy • language, literacy and numeracy • personas

RANGE STATEMENT	
	<ul style="list-style-type: none"> • specific needs - physical or psychological.
<i>Content</i> may include:	<ul style="list-style-type: none"> • animation • audio/visual files, such as PowerPoint • graphics • images • text • text documents, such as PDF and Word.
<i>Metadata standards</i> may include:	<ul style="list-style-type: none"> • Australian Government Locator Service (AGLS) • CIDOC Conceptual Reference Model (CRM) • Dublin Core • EdNa metadata standards • other standards as appropriate.
<i>Organising content</i> may include:	<ul style="list-style-type: none"> • categorisation, based on: <ul style="list-style-type: none"> • alphabet • numbers • location • time • continuum • subject category • random • chunking • graphical • message • metadata • metaphor.
<i>Classification techniques</i> may include:	<ul style="list-style-type: none"> • folksonomy • taxonomy.
<i>Search requirements</i> may include:	<ul style="list-style-type: none"> • advanced search • browse via menu systems • browse via quick search • metadata search • search site by text box.
<i>Project requirements</i> may include:	<ul style="list-style-type: none"> • access to facilities and resources • budget • deliverables • milestones • personnel, including:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • number • availability • expertise • prototyping • technical issues, including: <ul style="list-style-type: none"> • delivery platform • disk space • bandwidth • testing plan • timelines.
<i>Wire frames</i> may include:	<ul style="list-style-type: none"> • digital software, such as: <ul style="list-style-type: none"> • PowerPoint • Dreamweaver • paper-based.
<i>Design specifications</i> may include:	<ul style="list-style-type: none"> • content inventory • diagrams • flow charts • maps • navigation charts • plans • search functions and search display • storyboards • technical specifications • wire frames.
<i>Testing techniques</i> may include:	<ul style="list-style-type: none"> • card sorting • focus group • heuristic analysis • inspection • user trial.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - digital content and imaging
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Co-requisite units

Co-requisite units		

CUVACD101A Use basic drawing techniques

Modification History

Version	Comments
CUVACD101A	This version first released with <i>CUVII Visual Arts, Craft and Design Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to create a basic visual representation of objects or ideas. It does not relate to drawing as an art form.

Application of the Unit

This unit is introductory in nature and applies to any context where a basic sketch or drawing of objects, ideas or layouts is required.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<p><i>Elements describe the essential outcomes of a unit of competency.</i></p>	<p><i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i></p>

Elements and Performance Criteria

<p>1. Prepare for drawing</p>	<p>1.1 Clarify purpose of drawings with <i>appropriate people</i> 1.2 Identify tools and materials required for basic drawing <i>techniques</i> 1.3 Select appropriate <i>tools and materials</i> for basic drawing techniques</p>
<p>2. Produce basic drawings</p>	<p>2.1 Apply a limited range of techniques to represent <i>objects or ideas</i> 2.2 Handle tools and materials safely 2.3 Seek feedback on drawings from relevant people and refine drawings as required</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - clarify purpose of drawings
 - seek feedback to refine drawings
- learning skills to respond to feedback from others to improve own drawing skills
- literacy skills to read basic safety information
- numeracy skills to deal with basic scaling and layout issues

Required knowledge

- materials and tools commonly used for drawing
- different types of drawing
- ways of minimising waste in drawing projects
- OHS issues associated with tools and materials used in drawing work

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • produce more than one drawing that represents an object or idea • apply a range of basic drawing techniques.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • materials and tools used in drawing work.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of work in progress • review of drawings produced by the candidate • oral or written questioning to assess knowledge of drawing techniques and materials • review of portfolios of evidence • review of third-party reports from experienced practitioners. <p>Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).</p>
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Appropriate people</i> may include:	<ul style="list-style-type: none"> • colleagues • mentors • supervisors • teachers.
<i>Techniques</i> may include:	<ul style="list-style-type: none"> • application of pigment • linear marks of differing character • linear marks to produce illusion of form in space • simple linear perspective • tonal ranges to produce illusion of form in space.
<i>Tools and materials</i> may include:	<ul style="list-style-type: none"> • board • charcoal • coloured pencils • drafting equipment • graphite pencils • measuring tools • natural ochres • pastels and chalks • pigments • rags • range of papers • sticks • wood or bark.
<i>Objects or ideas</i> may include:	<ul style="list-style-type: none"> • artwork of any type, 2-D or 3-D • costume or wearable object • design solution • movement sequences • props • room layout • sets • stage setup • story or narrative • technical solution.

Unit Sector(s)

Visual communication – art, craft and design

CUVACD201A Develop drawing skills to communicate ideas

Modification History

Version	Comments
CUVACD201A	This version first released with <i>CUV11 Visual Arts, Craft and Design Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop simple drawing techniques for representing and communicating ideas. It does not relate to drawing as an art form. In a work or learning context this unit may relate to visually communicating ideas about objects, as well as the use of space, narratives or the steps in a process.

Application of the Unit

People working in many industries apply the skills and knowledge in this unit. At this level, a limited range of techniques would be expected, and work would normally be completed under supervision.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Prepare to use a range of drawing techniques	1.1 Clarify purpose of drawings with <i>appropriate people</i> 1.2 Identify suitable techniques to represent <i>ideas</i> 1.3 Select <i>tools</i> and <i>materials</i> required for selected techniques 1.4 Take <i>presentation context</i> into account when selecting techniques, tools and materials
2. Produce simple drawings	2.1 Explore ways of representing ideas through application of different techniques 2.2 Seek feedback from others on different drawing techniques 2.3 Select techniques best suited to represent ideas 2.4 Draw ideas using selected techniques 2.5 Respond positively to feedback from others on own work and take action to improve own skills as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to confirm and discuss purpose of drawings
- learning skills to:
 - improve techniques for producing drawings through practice
 - respond appropriately to feedback on own work
- literacy skills to read product labels and instructions
- numeracy skills to deal with basic scaling and layout issues
- planning and organising skills to organise resources for simple drawing projects.

Required knowledge

- physical properties and capabilities of tools and materials commonly used for drawing
- different approaches to drawing and how other practitioners use drawing to represent ideas
- elements and principles of design
- intellectual property issues and legislation in relation to drawing
- ways of minimising waste in drawing projects
- OHS issues associated with tools and materials used for drawing.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • produce multiple drawings that: <ul style="list-style-type: none"> • demonstrate a basic command of nominated techniques • communicate ideas • are appropriate for the presentation context.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • equipment and materials used to produce drawings.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of work in progress • evaluation of drawings • oral or written questioning to assess knowledge of drawing techniques and materials • review of portfolios of evidence • review of third-party reports from experienced practitioners. <p>Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).</p>
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Appropriate people</i> may include:</p>	<ul style="list-style-type: none"> • colleagues • mentors • supervisors • teachers.
<p><i>Techniques</i> may include:</p>	<ul style="list-style-type: none"> • digital drawing techniques • integration of text and drawing • linear marks of differing intensity and character • linear marks to produce illusion of form in space • linear perspective • scaling techniques • tonal range to produce illusion of form in space • use of positive and negative space.
<p><i>Ideas</i> may relate to:</p>	<ul style="list-style-type: none"> • crafted objects • design concepts • digital work • installations • movement sequences • narrative • paintings and prints • performance • sculptures • story • technical solutions for a design or work.
<p><i>Tools</i> may include:</p>	<ul style="list-style-type: none"> • blades • brushes • digital technology • drawing and design applications • measuring tools • printer • rags • scanner • sponges • sticks.

<i>Materials</i> may include:	<ul style="list-style-type: none">• boards• charcoal• coloured pencils• crayons• graphite pencils• inks• natural ochres• pastels and chalks• pigments• range of papers• solvents• watercolour• wood or bark.
<i>Presentation context</i> may include:	<ul style="list-style-type: none">• design proposal• proposal for product or work development• proposal in response to a brief• visualisation of an idea.

Unit Sector(s)

Visual communication – art, craft and design

CUVACD401A Integrate colour theory and design processes

Modification History

Version	Comments
CUVACD401A	This version first released with <i>CUVII Visual Arts, Craft and Design Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to explore and integrate colour theory and design processes into two-dimensional or three-dimensional work.

Application of the Unit

Any person working with the design process in a visual communication context applies the skills and knowledge in this unit.

At this level, work would be undertaken independently, with supervision and guidance as required.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Research information on colour theory and design processes	1.1 Identify and access relevant <i>sources of information</i> on colour theory and design processes 1.2 Research historical and contemporary approaches to colour and design in the context of the work project 1.2 Evaluate information with consideration of how colour and design issues may be integrated into the design process
2. Communicate ideas through the application of colour and design theory	2.1 Select, combine and explore <i>materials, tools and equipment</i> to determine ways in which colour theory and design processes may be integrated 2.2 Explore and develop new ideas through a process of experimentation 2.3 Achieve solutions by working with the fundamental <i>elements and principles of design</i> and different <i>aspects of colour</i>
3. Evaluate design work	3.1 Reflect on own application of design process and success in communicating concepts and ideas 3.2 Identify areas for future improvement, especially in terms of own skill development 3.3 Communicate about completed work with others and respond positively to feedback

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to present and discuss ideas about design
- critical thinking and analytical skills to evaluate information from a wide range of sources in order to develop design ideas
- initiative and enterprise skills to consider new and different ways of achieving required design outcomes
- literacy skills to interpret information about design and colour from a range of sources
- problem-solving skills to identify and resolve technical and conceptual design issues
- numeracy skills to use numerical aspects of software programs
- self-management skills to plan and coordinate own work
- technology skills to use the internet as a research tool.

Required knowledge

- awareness of the notion of individual interpretation and choice within the design process, including the potential limitations of sticking too closely to theory
- ways in which colour theory and design processes can be explored and combined to meet the needs of a brief
- materials, tools and equipment required for the production of samples that integrate colour theory and design processes
- how other artists and designers have applied colour theory and design processes
- intellectual property issues and legislation and their impact on aspects of design
- role and nature of a brief within the design process, including different types of briefs and how designers use them
- sustainability considerations for the design process in the relevant context
- OHS procedures relevant to design context.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • solve design challenges through the application of colour theory and design processes • apply knowledge of the ways in which colour theory and design processes may be used in the production of design or artwork.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • tools, materials and equipment used in the design process in the relevant context.
Method of assessment	<p>Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:</p> <ul style="list-style-type: none"> • evaluation of processes used by the candidate to solve design challenges • evaluation of a candidate’s visual diary or other forms of documentation showing the development of the designs • questioning and discussion about candidate’s intentions and the work outcome • review of portfolios of evidence • review of third-party reports from experienced practitioners. <p>Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).</p>
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Sources of information</i> may include:</p>	<ul style="list-style-type: none"> • art and design work • books and magazines • manufactured structures • natural and architectural forms • optics • personal observation • scientific texts • software programs.
<p><i>Materials</i> may include:</p>	<ul style="list-style-type: none"> • clays and plaster • drawing media and implements • hard materials, such as: <ul style="list-style-type: none"> • metal • stone • wood • fabrics and textiles • fixing agents and mechanisms • paints and inks • papers and cardboard
<p><i>Tools and equipment</i> may include:</p>	<ul style="list-style-type: none"> • air guns and brushes • clamps • cutting blades • digital equipment • hand tools • light sources • pens and nibs • receptacles • rulers • scissors • spatulas • sponges.
<p><i>Elements and principles of design</i> relate to:</p>	<ul style="list-style-type: none"> • alignment • balance • coherence

	<ul style="list-style-type: none"> • colour • composition • contrast • direction • dominance • emphasis • form • line • movement • negative and positive space • pattern • proportion • proximity • repetition • rhythm • shape • simplicity and complexity • subordination • texture • unity.
<p><i>Aspects of colour</i> may relate to:</p>	<ul style="list-style-type: none"> • addition and subtraction • chroma • colour mix • complementary colours • desaturation • high key • intensity • low key • saturation • temperature • transparency • value.

Unit Sector(s)

Visual communication – art, craft and design

CUVGRD302A Use typography techniques

Modification History

Version	Comments
CUVGRD302A	This version first released with <i>CUVII Visual Arts, Craft and Design Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to use typography techniques in design work. It includes a general knowledge of typography and its application to different design briefs.

Application of the Unit

People working in many industries apply the skills and knowledge outlined in this unit. They may work as individuals providing administrative support within an enterprise, or they may work in specialist design and printing companies where print jobs vary from brochures and corporate stationery to the artwork for billboards, display banners and textile products. At this level, work would be undertaken independently but within established parameters. Supervision or guidance is available as required.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

<p>1. Prepare to undertake typographic work</p>	<p>1.1 With reference to <i>briefing documentation</i>, clarify design requirements for <i>typographic work</i> in consultation with <i>relevant personnel</i></p> <p>1.2 Source <i>reference material</i> on typography pertinent to the brief</p> <p>1.3 Confirm <i>equipment, materials</i> and <i>work space</i> requirements</p> <p>1.4 Take account of the requirements for different publication <i>processes</i> when planning work</p> <p>1.5 Set up work space and equipment with due regard to safety considerations and organisational procedures</p>
<p>2. Test and explore a range of typographical techniques</p>	<p>2.1 Identify possible approaches to typography design and establish <i>criteria</i> for the selection of a final approach</p> <p>2.2 Select appropriate materials, tools and equipment for the testing of approaches and <i>techniques</i></p> <p>2.3 Trial typography techniques that may meet the requirements of the brief</p> <p>2.4 Evaluate trialling against criteria and select the preferred design approach</p>
<p>3. Complete typographic work</p>	<p>3.1 Develop the typographic work ensuring consistency with the selected approach and the brief</p> <p>3.2 Review work in progress against project objectives and specifications</p> <p>3.3 Seek and use feedback on work in progress to make adjustments to typographic work as required</p>
<p>4. Ensure quality of typographic output</p>	<p>4.1 Check that typography meets the requirements of the brief, including grammar and technical production and/or printing requirements</p> <p>4.2 Finalise operations in line with <i>organisational procedures</i></p> <p>4.3 Present completed work within agreed time and quality parameters</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - clarify written and verbal instructions
 - complete routine workplace documentation
- initiative and enterprise skills to experiment with typographical elements and techniques that best respond to design specifications
- learning skills to improve own skills in using typography based on feedback and experimentation
- literacy skills to:
 - interpret specifications and briefs for typographic work
 - apply a knowledge of spelling and grammar to proofreading text
- numeracy skills to calculate layout requirements, font sizes and enlargement factors
- planning and organising skills to:
 - plan work tasks in a logical sequence
 - organise resources
- problem-solving skills to adjust fit and fonts to ensure best possible results
- self-management skills to prioritise work tasks and complete work within time and quality parameters
- technology skills to use a broad range of typographical features of industry-standard software.

Required knowledge

- evolution and history of type at an overview level
- characteristics of, and uses for, a range of typefaces
- work space requirements for typographic work, including selection and set-up of work space
- physical properties and capabilities of a range of materials, tools and equipment used for typographic work
- typographic output devices and processes
- elements and principles of design and how they may be used in the development of ideas for typographic work
- intellectual property issues and legislation associated with typographic work
- sustainability issues associated with the materials, tools and equipment used in typographic work
- OHS requirements relevant to typographic work.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • apply typography in line with design concepts and briefs • produce typography that can be reproduced and transferred across design and pre-press sectors.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • a range of products that require the application of typographic techniques • computers and industry-standard software.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • evaluation of typography work produced by the candidate in response to particular brief • questioning and discussion about candidate's intentions and the work outcome • review of portfolios of evidence • review of third-party reports from experienced practitioners. <p>Assessment methods should closely reflect workplace demands (e.g. literacy) and the needs of particular groups (e.g. people with disabilities and people who may have literacy or numeracy difficulties, such as speakers of languages other than English, remote communities and those with interrupted schooling).</p>
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • CUFDIG304A Create visual design components • CUVGRD301A Prepare files for publication.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Briefing documentation</i> may contain information, such as:</p>	<ul style="list-style-type: none"> • aesthetic considerations • background information about clients • clients’ needs • constraints: <ul style="list-style-type: none"> • budget • end use for typographical work • timeframe • availability of support services • copy • creative and design objectives • details of type fonts required • legal, contractual, ethical and copyright considerations • equipment • materials • medium • personnel involved in the project • purpose of or audience for final product • relevant statutory requirements • scope for making adjustments • technical objectives • technology • timeframe.
<p><i>Typographic work</i> may be generated by manual or electronic means and can be targeted towards:</p>	<ul style="list-style-type: none"> • advertising or promotion for large or small scale projects, such as: <ul style="list-style-type: none"> • banners • billboards • brochures • identity and branding • labelling • packaging • publishing • websites.
<p><i>Relevant personnel</i></p>	<ul style="list-style-type: none"> • art department

<p>may include:</p>	<ul style="list-style-type: none"> • client • creative director • designer • director • manager • mentor • other technical or specialist personnel • producer • production manager • project manager • representative of organisation commissioning the work • supervisor • technical director.
<p>Reference material may include:</p>	<ul style="list-style-type: none"> • functions, practice and use of typeface in historical and contemporary contexts • information on the main typefaces • legal, ethical contractual and copyright considerations • market analysis and strategies • moral issues • new technology • role of text (copy) in visual communication.
<p>Equipment may include:</p>	<ul style="list-style-type: none"> • brushes • calligraphy pens • CDs • computer • discs • DVDs • printer • scanner • software.
<p>Materials may include:</p>	<ul style="list-style-type: none"> • a range of: <ul style="list-style-type: none"> • papers • board • plastics • textiles • drawing materials, such as: <ul style="list-style-type: none"> • pencils • pens • inks.
<p>Work space requirements may</p>	<ul style="list-style-type: none"> • consideration of OHS issues, including: <ul style="list-style-type: none"> • ergonomics

<p>include:</p>	<ul style="list-style-type: none"> • lighting • ventilation • process space specific needs, such as: <ul style="list-style-type: none"> • equipment • materials • tools • wet and dry areas.
<p>Publication processes may include:</p>	<ul style="list-style-type: none"> • any hard copy printing process • electronic platforms, such as: <ul style="list-style-type: none"> • CD • DVD • games console • internet • kiosk • mobile phone • other video playback devices • personal digital assistant (PDA) • video players (iPods).
<p>Criteria may include:</p>	<ul style="list-style-type: none"> • access to materials, tools and equipment required for typographic work • choice of typography that is consistent with specifications in the brief • ease of production or outputting • personal affinity with materials, tools and equipment.
<p>Techniques may include:</p>	<ul style="list-style-type: none"> • applying colour for specific effects • applying variations to the display of typeface, such as: <ul style="list-style-type: none"> • bold • captions • headlines • scale • titles • applying variations to the properties of a given typeface • composing type with overlays and tints • kerning • positioning typeface and images • serif or sans serif • size • slope • techniques that accentuate the message, such as: <ul style="list-style-type: none"> • font size and position

	<ul style="list-style-type: none"> • font type • use of images • use of white space • weight • use of typesetting technology.
<p><i>Organisational procedures</i> may relate to:</p>	<ul style="list-style-type: none"> • completing routine workplace documentation • cost control • making backup copies of files • managing typographic work to facilitate effective storage, retrieval and output by manual or digital means • process-specific procedures • recycling • removing debris • replacing protective covers and lids • reporting • safety • use of materials • washing and drying tools.

Unit Sector(s)

Visual communication – graphic design

ICADBS504A Integrate database with a website

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIT Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to ensure database is integrated with a website.

Application of the Unit

This unit applies to web developers who are responsible for creating data-driven web applications.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Connect to database	1.1 Identify site data needs from technical requirements 1.2 Connect to database from web application using a web development language
2. Retrieve data from database and display on web pages	2.1 Retrieve data using structured query language (SQL) 2.2 Display data in the most appropriate control 2.3 Format data so that it is displayed in the most effective way
3. Update database data from user input	3.1 Update existing data stored in the database with user-supplied input 3.2 Insert data in the database with user-supplied input 3.3 Delete data stored in the database 3.4 Include error checking and validation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - determine functional requirements
 - identify database access points
- communication skills to liaise with clients
- initiative and enterprise skills to provide feedback and recommend the most appropriate technology solutions
- literacy skills to:
 - follow documented instruction from a supplied guide
 - interpret workplace instructions and other technical documents
- planning and organisational skills to organise the most appropriate solution
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the created code
 - select the most efficient and effective algorithms
- research skills to:
 - find solutions to encountered problems
 - keep up-to-date with industry trends
- technical skills to:
 - apply hypertext transfer protocol (HTTP)
 - apply web programming concepts
 - create hypertext markup language (HTML) or eXtensible hypertext markup language (XHTML) pages
 - create software in a web development language
 - create SQL statements
 - create aesthetically pleasing web pages.

Required knowledge

- detailed knowledge of:
 - database structure
 - internet technology as it relates to the use of databases
 - programming control structures, object-oriented programming
 - SQL
- web programming concepts, including:
 - authentication and web security
 - HTTP
 - session management
 - stateless programming.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • create a web application which accesses a database, displaying and modifying the database data provided by user input.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • requirements documentation • web server • database • web development environment • browsers • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • evaluation of a web application created to access, display and update data stored in a database • verbal or written questioning to ensure knowledge of the impact of data-driven web applications.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Database</i> may include:	<ul style="list-style-type: none"> • Access • DB2 • Informix • Ingres • Microsoft SQL (MS SQL) server • Mini SQL (mSQL) • MySQL • Oracle • Sybase.
<i>Language</i> may include:	<ul style="list-style-type: none"> • ASP • ASP.NET • Coldfusion • Perlscript • PHP.
<i>User</i> may include:	<ul style="list-style-type: none"> • client • external departments • individuals • internal departments.

Unit Sector(s)

Database

ICANWK414A Create a common gateway interface script

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to define and produce common gateway interface (CGI) script and install that script on a server.

Application of the Unit

This unit applies to individuals in the network or web development area who are required to use CGI scripting as a common means of interacting with websites, providing security access to directories and databases.

Internet access to server CGI scripts provides a powerful means to control a wide variety of operations on the server.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Define specification for CGI script	1.1 Determine the functionality of the CGI <i>form</i> 1.2 Define the functionality of the CGI script 1.3 Choose the appropriate <i>language</i> in which to write the CGI script 1.4 Determine <i>server requirements</i>
2. Create CGI form and write script	2.1 Produce a hypertext markup language (HTML) web document that uses the form elements required by the <i>CGI script specification</i> and includes the uniform resource locator (URL) for the CGI script 2.2 Write the CGI script to function as required by the CGI script specification
3. Test CGI script	3.1 Configure the <i>server</i> , if required, that will host the CGI script 3.2 Upload the CGI script to the server 3.3 Run the CGI form and assess its output 3.4 Reiterate until the specification for the CGI script is met

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise with internal and external personnel on technical, operational and business-related matters
- literacy skills to write network documentation in required formats and maintain records
- numeracy skills to interpret technical data
- planning and organisational skills to plan, prioritise and monitor own work
- research skills to gain and maintain current industry technical knowledge
- technical skills to:
 - interpret and write HTML
 - use basic operating system commands
 - use file transfer protocol (FTP) clients.

Required knowledge

- detailed knowledge of:
 - a scripting language
 - CGI 1.1/1.2 specifications
 - security issues surrounding CGI
 - web servers
- overview knowledge of:
 - Copyleft and Free Software Foundation
 - special features relating to copyright and intellectual property.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • review the requirements • produce CGI forms and scripts to meet the requirements • upload scripts to a server • test the script, and rework until requirements is met.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • web servers • ebusiness website • FTP or file transfer client software • server access • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess candidate's knowledge of: <ul style="list-style-type: none"> • scripting language • security issues surrounding CGI • evaluation of candidate's CGI form • review of candidate's CGI script.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Form</i> may include:	<ul style="list-style-type: none"> • hidden form tags • on or off flags • scrollable text box • selection lists • single selection buttons • submit and reset • text box.
<i>Language</i> for CGI may include:	<ul style="list-style-type: none"> • AppleScript • C or C++ • Perl • Python • shell script • Visual Basic.
<i>Server requirements</i> may include:	<ul style="list-style-type: none"> • ability to FTP documents to a server • remote desktop • secure shell access • Telnet to a server or Telnet-only access on another server • VPN.
<i>CGI script specifications</i> may include:	<ul style="list-style-type: none"> • CGI/1.1 specification • CGI/1.2 specification.
<i>Server</i> may include:	<ul style="list-style-type: none"> • Apache HTTP server • BEA Weblogic servers • email servers • file and print servers • FTP servers • IBM VisualAge and WebSphere • iPlanet-Enterprise • Lotus Domino • Microsoft-Internet-Information-Server • NetDynamics • Netscape Enterprise Server, Netscape-FastTrack, Netscape-Commerce • proxy servers

	<ul style="list-style-type: none">• Sun Microsystems iPlanet Web Server• Sun Microsystems Java Web Server.
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Unit Sector(s)

Networking

ICAWEB409A Develop cascading style sheets

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop cascading style sheets (CSS) that are attached to a markup language document in order to externally define and control styles to enhance and achieve commonality between web documents.

Application of the Unit

This unit applies to web designers and web developers who are involved in the layout and appearance of web pages.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Format, style and lay out the elements on a web page	1.1 Obtain user requirements 1.2 Style elements of a web page using a CSS 1.3 Apply CSS style sheets to multiple pages in a website 1.4 Position document elements using CSS
2. Test and validate web pages	2.1 Test website in various <i>browsers</i> 2.2 Validate the CSS against <i>industry standards</i> 2.3 Report result of tests to <i>appropriate person</i>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify appropriate CSS rules to be applied to obtain desired result
- communication skills to liaise with end users
- initiative and enterprise skills to recommend design features
- literacy skills to:
 - follow documented instruction from a supplied guide
 - interpret workplace instructions and other technical documents
- numeracy skills to work with:
 - document element dimensions
 - relative and absolute measurements
- planning and organisational skills to:
 - create the CSS in allocated timeframe
 - plan the layout of the web page
- problem-solving skills to:
 - create web pages that function in a variety of screen resolutions
 - resolve browser incompatibilities
- research and literacy skills to keep up-to-date with latest industry guidelines
- technical skills to:
 - produce valid accessible web pages
 - use CSS in the most efficient and effective way.

Required knowledge

- overview knowledge of standard web and CSS design principles
- detailed knowledge of:
 - hypertext transfer protocol (HTTP)
 - markup language (HTML, XHTML)
 - web standards.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • develop a website styled and formatted using CSS to user requirements • lay out page elements using CSS • test web pages in a variety of browsers • validate the CSS against industry standards.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • a computer • aesthetic presentation brief • variety of browsers • HTML documents to have CSS applied to them • internet access to validate the CSS against the World Wide Web Consortium (W3C) • appropriate learning and assessment support when required. <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess candidate's knowledge of CSS rules and how they affect the document styling and layout • evaluation of candidate's created and modified web pages styled using CSS.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be</p>

	combined with targeted questioning to assess required knowledge.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Browsers</i> may include:	<ul style="list-style-type: none"> • Google Chrome • Firefox • Safari • Internet Explorer • Konqueror • Lynx • Mozilla • Netscape Navigator • Opera.
<i>Industry standards</i> may include:	<ul style="list-style-type: none"> • W3C • Web 2.0.
<i>Appropriate person</i> may include:	<ul style="list-style-type: none"> • client • manager • supervisor.

Unit Sector(s)

Web

ICAWEB410A Apply web authoring tool to convert client data for websites

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to use web development software to create website content. The unit is designed to use a web authoring tool to convert text and images to appropriate web protocols.

Application of the Unit

This unit applies web developers who are responsible for developing websites using client data.

Using web authoring to convert data is an appropriate method for rapid data translation and prevents the need for a rewrite.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Create files	<p>1.1 Create files and save in correct location and directory</p> <p>1.2 Insert and format text content according to <i>business requirements</i></p> <p>1.3 Insert and optimise <i>images</i> as required</p>
2. Create formatting templates	<p>2.1 Create basic external cascading style sheets (CSS)</p> <p>2.2 Define styles for the required tags according to business requirements</p> <p>2.3 Link CSS to the files and display formatting</p>
3. Define library items	<p>3.1 Identify items that recur on several pages and include in library</p> <p>3.2 Format selected items according to CSS definition</p> <p>3.3 Check tags of selected items</p> <p>3.4 Create and clearly name selected library items</p> <p>3.5 Update items contained in library according to business requirements</p>
4. Develop templates	<p>4.1 Create and save file as template and link with CSS</p> <p>4.2 Format template and create and name editable regions</p> <p>4.3 Place generic image icons in page as required by business image</p> <p>4.4 Save and modify templates</p>
5. Identify authoring requirements	<p>5.1 Select preferred web authoring tool, according to business requirements</p> <p>5.2 Set preferences for web authoring tool, including site <i>file transfer protocol (FTP) client</i></p> <p>5.3 Customise and navigate the web author tool environment or workspace to meet individual <i>requirements</i></p> <p>5.4 Select buttons and tools, both opened and closed, to access full range of features</p> <p>5.5 Define and name site and root folder</p>
6. Create simple forms	<p>6.1 Add form elements to page</p> <p>6.2 Set form element properties for each form element</p> <p>6.3 Insert additional fields as required for processing form</p> <p>6.4 Identify availability and location of common gateway</p>

	<p>interface (CGI) script</p> <p>6.5 Connect form to a script in a <i>server</i> CGI bin</p> <p>6.6 Test form to ensure no errors</p>
7. Create simple navigation	<p>7.1 Create site map to plan navigation</p> <p>7.2 Create links between pages to reflect content structure using both text and images</p> <p>7.3 Check links in multiple <i>browsers</i> for errors</p> <p>7.4 Check website content across a number of different browsers and browser versions to ensure consistency of presentation, performance and accessibility</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to analyse business requirements
- communication skills to:
 - communicate with clients
 - convey and clarify complex information
 - seek assistance and expert advice
- literacy skills to interpret technical documentation, equipment manuals and authoring specifications
- planning and organisational skills to prioritise and monitor own work
- problem-solving skills to solve operational problems as they arise
- safety awareness skills to work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- technical skills to:
 - analyse and interpret technical aspects of implementation
 - design simple forms
 - operate software applications
 - select appropriate authoring tools to meet required specifications
 - write and maintain HTML.

Required knowledge

- Australian Computer Society Code of Ethics
- Authoring Tool Accessibility Guidelines
- standard generalised markup language (SGML) and the associated standards
- standard web and CSS design principles
- website design methods and standard website structures.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • develop web content using authoring tools to meet specifications • use authoring tools to create cross-browser web documents • create forms • create navigation tools.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • site where web content may be developed using a web authoring tool • site authoring software and tools currently used in industry • business expectations brief • appropriate standards and current legislation • appropriate learning and assessment support when required. <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess candidate's knowledge of web authoring tools • direct observation of candidate using authoring tool to convert client data for website • review of website developed by candidate following business requirements.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be</p>

	combined with targeted questioning to assess required knowledge.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Business requirements</i> may relate to:	<ul style="list-style-type: none"> • customer • inventory • payroll • supplier • tax requirements of the organisation.
<i>Images</i> may include:	<ul style="list-style-type: none"> • clipart • graphics • pictures.
<i>File transfer protocol client</i> may include:	<ul style="list-style-type: none"> • AxY FTP for Windows, Linux and Unix • cftp for Unix • Curl for Unix supports FTP, HTTP and Telnet • GFTP with GUI for Unix supports FTP, HTTP and SSH • lftp command line FTP for Solaris, IRIX, HP-UX, Digital Unix and Linux • Lukemftp command-line FTP supports FTP and HTTP URLs • NcFTP Client command-line FTP and HTTP URLs for Solaris, FreeBSD, AIX and Linux • WS-FTP.
<i>Requirements</i> may refer to:	<ul style="list-style-type: none"> • application • business • network • people in the organisation • system.
<i>Server</i> may include:	<ul style="list-style-type: none"> • application and web • building environmental assessment (BEA) weblogic • email • file and print • firewall • file transfer protocol • IBM VisualAge and WebSphere • Novell Directory Services • proxy or cache.
<i>Browsers</i> may include:	<ul style="list-style-type: none"> • Galleon • Internet Explorer

	<ul style="list-style-type: none">• Konqueror• Lynx• Mozilla• Netscape Navigator• Opera• Phoenix.
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Unit Sector(s)

Web

ICAWEB418A Use development software and IT tools to build a basic website

Modification History

Version	Comments
ICAWEB418A	This version first released with <i>ICAI1 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to build a basic website that is consistent with design and technical requirements, and business expectations.

Application of the Unit

This unit applies to web developers responsible for building websites.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

<p>1. Select and analyse website structure and development tools</p>	<p>1.1 Analyse business <i>specification</i> and select appropriate <i>software</i></p> <p>1.2 Identify technical needs for the website and select appropriate <i>software tools</i></p> <p>1.3 Identify site structure and navigation flow and demonstrate understanding of functionality</p> <p>1.4 Review design <i>documentation</i> and integrate design work with site structure and navigation, according to <i>web development standards</i></p>
<p>2. Begin site construction</p>	<p>2.1 Take action to ensure <i>user</i> input during website construction</p> <p>2.2 Validate existing information and basic content when incorporating data on website</p> <p>2.3 Apply consistent design specifications to all aspects of the website</p> <p>2.4 Gather feedback from user on web design, content, accessibility and structure, using appropriate feedback mechanism</p>
<p>3. Complete and validate website construction and content</p>	<p>3.1 Undertake an evaluation of the website against technical requirements and design specification</p> <p>3.2 Test each function and process of the website</p> <p>3.3 Conduct navigation tests and hypertext markup language (HTML) compliance with website standards</p> <p>3.4 Stress test the website to meet design criteria and user load</p> <p>3.5 Record testing results to ensure website meets user requirements</p> <p>3.6 Obtain sign-off and approval of user</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - analyse business specification and select appropriate software
 - debug and handle errors
 - troubleshoot basic web links and HTML code errors
- communication skills to liaise with user
- literacy skills to review design documentation and record testing results
- technical skills to:
 - debug and handle errors
 - develop code in HTML
 - identify technical needs and site structure for the website
 - read design specifications and guidelines
 - use appropriate development software and tools.

Required knowledge

- basic knowledge of:
 - design principles
 - issues around accessibility and equity principles when building for diverse users
- detailed knowledge of:
 - appropriate software and tools that meet required technical specifications
 - standard generalised markup language (SGML) and the associated standards
 - website design
 - web-specific technical attributes.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • build a basic website to website specifications • undertake and audit against the business requirements and design needs prior to task completion and sign-off.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • basic website specifications and guidelines • website development software and tools • internet server • organisational and industry standards • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess candidate's knowledge of website design and web-specific technical attributes • evaluation of candidate's: <ul style="list-style-type: none"> • code generation and the code results • completed website • direct observation of candidate creating website • review of candidate's created website and its fulfilment of requirements.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined</p>

	with targeted questioning to assess required knowledge.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specification</i> may include:	<ul style="list-style-type: none"> • current system functionality • technical requirements • user problem statement.
<i>Software</i> may include:	<ul style="list-style-type: none"> • Bluefish • commercial software applications • Dreamweaver • Fireworks • Golive • NetObjects Fusion • Notepad • text editors, such as Word pad.
<i>Software tools</i> may include:	<ul style="list-style-type: none"> • FrontPage • FTP programs • HotDog • Macromedia.
<i>Documentation</i> may follow:	<ul style="list-style-type: none"> • audit trails • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) standards • naming standards • project management templates • report writing protocols • version control.
<i>Web development standards</i> may include:	<ul style="list-style-type: none"> • Authoring Tool Accessibility Guidelines (ATAG) • Web Content Accessibility Guidelines (WCAG).
<i>User</i> may include:	<ul style="list-style-type: none"> • department within the organisation • person within a department • third party.

Unit Sector(s)

Web

ICAWEB419A Develop guidelines for uploading information to a website

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to support the effective operation of a website by establishing content upload guidelines and procedures in the context of site policies.

Application of the Unit

This unit applies to individuals working in the web area who are required to ensure that a website remains operational.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Develop site policies	<p>1.1 Develop and disseminate policies on acceptable usage, security, privacy and copyright issues based on technical security and privacy <i>requirements</i></p> <p>1.2 Develop and disseminate roles and responsibilities for updating and loading <i>content</i> and removing redundant information</p> <p>1.3 Document and disseminate information about the nature of content able to be updated and loaded</p> <p>1.4 Establish upload <i>documentation</i> and disseminate the processes and procedures for update, loading or removal of content on the site</p> <p>1.5 Implement automatic and routine updating and archiving procedures</p>
2. Establish updating and loading procedures	<p>2.1 Allocate and make available to contributors directory space to update and load new site content</p> <p>2.2 Identify and make available for use authoring guides and resources based on cascading style sheets (CSS) and business style guides</p> <p>2.3 Develop and make available new content templates to be applied by authors for use based on CSS parameters</p> <p>2.4 Allocate and monitor <i>server</i> permissions</p> <p>2.5 Identify preferred <i>file transfer protocol (FTP) client</i> based on best fit with technical environment and make available for use</p> <p>2.6 Customise FTP client to meet requirements</p> <p>2.7 Identify and develop authoring support tools, such as help files and links</p> <p>2.8 Disseminate authoring support tools, such as help files and links as necessary</p>
3. Document guidelines	<p>3.1 Develop documentation for loading information, taking into consideration security and privacy</p> <p>3.2 Document and make available links to recommended support tools</p> <p>3.3 Automate <i>details</i> of recent updates and loading of information, and document on the site</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise and negotiate with colleagues and clients
- literacy skills to:
 - create procedures
 - interpret legislative and standards requirements
 - interpret organisational policy and requirements
- planning and organisational skills to:
 - allocate roles and responsibilities
 - develop guidelines for uploading website content
 - meet organisational and other requirements for uploading site content
- research skills to locate and evaluate available products and services
- technical skills to:
 - analyse websites
 - archive information
 - locate and use authoring guides
 - maintain and administer a website
 - publish on a website
 - transfer files
 - undertake directory maintenance
 - use CSS and content templates
 - use FTP to move data or other files, such as help files or links
 - use website design software
 - write policy.

Required knowledge

- copyright and intellectual property issues
- information architecture
- internet protocols
- procedures for disseminating and documenting technical specifications
- website architecture and business process design and how ebusiness sites fit into corporate strategy.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • develop procedures for uploading and removing website content that: <ul style="list-style-type: none"> • reflects the strategic intent of the site while maintaining site security and privacy standards • adheres to quality standards for the updating process and data • carries out updates in a secure and convenient manner • research and recommend current industry products and services.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • servers • ebusiness website • FTP software • organisational documentation, requirements and guidelines • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of candidate identifying, analysing and evaluating procedures and tools from a variety of sources, such as authoring tools and updating procedures • verbal or written questioning to assess candidate's knowledge of major elements of website design • review of guidelines developed by candidate for uploading content.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking</p>

	<p>background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Requirements may include:</p>	<ul style="list-style-type: none"> • application • business • network • people in the organisation • system • advising users of old data being archived and new content that has been posted when updating, loading and removing redundant content.
<p>Content may include information and interactive features, such as:</p>	<ul style="list-style-type: none"> • background articles • company information • copyright and disclaimer notices • customer only information • customer-specific information • error messages • feedback mechanisms • forms • frequently asked questions • hyperlink titles • instructions • product information • ratings, rankings, testimonials and quotes from reviews • reference pages • site map • what's new.
<p>Documentation may follow:</p>	<ul style="list-style-type: none"> • audit trails • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) standards • naming standards • project-management templates • report writing principles • version control.
<p>Server may include:</p>	<ul style="list-style-type: none"> • application and web servers • BEA Weblogic servers

	<ul style="list-style-type: none"> • email servers • file and print servers • firewall servers • FTP servers • IBM VisualAge and WebSphere • Novell Directory Services (NDS) servers • proxy or cache servers.
<i>File transfer protocol client</i> may include:	<ul style="list-style-type: none"> • AxY FTP for Windows, Linux and Unix • cftp for Unix • Curl for Unix supports FTP, HTTP, and Telnet • gFTP with GUI for Unix supports FTP, HTTP and SSH • lftp command line FTP for Solaris, IRIX, HP-UX, digital Unix and Linux • Lukemftp command-line FTP supports FTP and HTTP URLs • NcFTP client command-line FTP and HTTP URLs for Solaris, FreeBSD, AIX, Linux.
<i>Details</i> may include:	<ul style="list-style-type: none"> • author • location and title of new files • time of update.

Unit Sector(s)

Web

ICAWEB421A Ensure website content meets technical protocols and standards

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare a range of content for a website in accordance with customer specifications while ensuring that content is compatible with appropriate technical and infrastructure protocols.

Application of the Unit

This unit applies to those working in the web development area who are required to populate websites according to standards and protocols.

Website design is important for a range contexts, including security, accessibility and legal, moral and ethical issues.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

<p>1. Confirm that content meets required standards</p>	<p>1.1 Take action to ensure that text-based <i>content</i> meets client needs and required style <i>standards</i></p> <p>1.2 Confirm multimedia-based content meets the business design standards or overall look of the website</p> <p>1.3 Check that the mix between multimedia and text-based content provides the required level of interaction identified in the project brief</p> <p>1.4 Test that content conforms to <i>client</i> expectations and technology</p>
<p>2. Confirm that technology supports content</p>	<p>2.1 Take action to ensure that the protocols required for multimedia content are available</p> <p>2.2 Check and confirm that the bandwidth required to support the content is available</p> <p>2.3 Check and confirm that <i>servers</i> support the content and levels of interaction</p> <p>2.4 Check and confirm that plug-ins required to support content are made available</p> <p>2.5 Test and confirm that compression techniques support delivery of content</p>
<p>3. Test content</p>	<p>3.1 Test and confirm that content displays as intended and according to business <i>requirements</i> in target <i>browsers</i></p> <p>3.2 Test with beta <i>users</i> that content encourages interaction and content interaction performs as intended and record results</p> <p>3.3 Test and confirm that plug-ins download with a minimum of steps, complication and time</p> <p>3.4 Test that interactive tools are available and provide the expected results</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise with users on technical and content matters
- literacy skills to ensure text-based content meets client needs
- technical skills to:
 - act on protocols required for multimedia content
 - manage file transfer protocols
 - undertake site testing.

Required knowledge

- applicability of copyright, privacy and intellectual property to website development
- common software compression algorithms and associated technologies
- file transfer protocol (FTP) software protocols
- internet protocols
- server access security principles and procedures
- server operating systems
- streaming technologies.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare and integrate a mix of content for a website • use correct streaming and compression techniques.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • documents detailing organisational style guide or policies • PC where software installation may be performed • compression and streaming software • internet connection • live network • network components, hardware and software • networked computers • server and workstation hardware and software • style guides and design brief • technical documentation and installation manuals • use of software currently used in industry • vendor hardware and software components • appropriate learning and assessment support when required. <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess candidate's knowledge of the technologies and associated protocols associated with website design • direct observation of candidate managing FTPs and site testing • review of the candidate's active website.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally</p>

	<p>appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Content</i> may include:	<ul style="list-style-type: none"> • animation • multimedia content, such as audio and video streaming • sound files • static graphics • text-based documents.
<i>Standards</i> may include:	<ul style="list-style-type: none"> • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) • organisational standards • project standards, found on Standards Australia website.
<i>Client</i> may include:	<ul style="list-style-type: none"> • clubs • external organisations • individuals • internal departments • internal employees.
<i>Servers</i> may include:	<ul style="list-style-type: none"> • application and web servers • building environmental assessment (BEA) Weblogic servers • email servers • file and print servers • firewall servers • FTP servers • IBM VisualAge and WebSphere • Novell Directory Services (NDS) servers • proxy or cache servers.
<i>Requirements</i> may relate to:	<ul style="list-style-type: none"> • application • business • network • people in the organisation • system.

<i>Browsers</i> may include:	<ul style="list-style-type: none">• Galleon• Internet Explorer• Konqueror• Lynx• Mozilla• Netscape Navigator• Opera• Phoenix.
<i>Users</i> may include:	<ul style="list-style-type: none">• department within the organisation• person within a department• third party.

Unit Sector(s)

Web

ICAWEB429A Create a markup language document to specification

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to design, create and save a markup language document to a given specification using a text editor rather than an authoring tool.

Application of the Unit

This unit applies to web designers and developers responsible for the creation of web pages using a markup language.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Analyse specifications and requirements	1.1 Determine uses and audience of the document 1.2 Determine appropriate markup language based on document uses and audience and current industry best practice 1.3 Determine document structure
2. Create document structure	2.1 Create and assign basic elements of the document, taking into account accessibility 2.2 Mark up sections of the document to describe the structure
3. Incorporate web page components	3.1 Identify web page components 3.2 Evaluate suitable web page components 3.3 Include required web page components
4. Validate documents	4.1 Validate markup language document against specifications and record outcomes 4.2 Validate markup language document in different browsers for compatibility and record outcomes

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to determine uses, audience and document structure
- communication skills to liaise with end users
- initiative and enterprise skills to recommend design features
- literacy skills to:
 - follow documented instruction from a supplied guide
 - interpret workplace instructions and other technical documents
 - keep up-to-date with latest industry guidelines
- problem-solving skills to use markup language and troubleshoot problems
- technical skills to use a markup language to create the required web page.

Required knowledge

- markup language and associated standards
- range of available browsers' web accessibility.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • design, create and save a markup language document using a markup language without the automated generation of code.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • organisational style guide or policy • user requirements • text editor • range of browsers • internet to validate markup • appropriate learning and assessment support when required. <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • evaluation web pages prepared by candidate using a text editor • evaluation of candidate's validated markup code results in commonly used browsers • validation of candidate's markup correctness against standards set by the World Wide Web Consortium (W3C).
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required</p>

	knowledge.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Markup language may include:	<ul style="list-style-type: none"> • dynamic hypertext markup language (DHTML) • hypertext markup language (HTML) • standard generalised markup language (SGML) • virtual reality modelling language (VRML) • eXtensible hypertext markup language (XHTML) • eXtensible markup language (XML).
Accessibility may be related to:	<ul style="list-style-type: none"> • browser software, user agent and versions • cultural awareness • ethnicity • physical impairments • remote locations.
Structure may include elements such as:	<ul style="list-style-type: none"> • headings • lists • paragraphs.
Web page components may include:	<ul style="list-style-type: none"> • flash movies • images • links • lists • tables.
Browsers may include:	<ul style="list-style-type: none"> • Firefox • Google chrome • Internet Explorer • Konqueror • Lynx • Mozilla • Opera • Safari.

Unit Sector(s)

Web

ICAWEB502A Create dynamic web pages

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to build active or dynamic web pages.

Application of the Unit

This unit applies to web developers responsible for creating dynamic pages to provide interaction between the user and the website.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Identify client and server-side dynamic content	1.1 Review technical requirements 1.2 Identify sections of the website requiring client-side dynamic content 1.3 Identify sections of the website requiring server-side dynamic content 1.4 Select appropriate <i>languages</i> and technology to meet the requirements
2. Create dynamic content	2.1 Create pages using appropriate languages 2.2 Ensure code conforms to current industry best practice and standards
3. Test dynamic pages	3.1 Test website in a variety of <i>browsers</i> 3.2 Ensure required dynamic content functions according to specified requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - determine functional requirements
 - identify dynamic client and server-side requirements
- communication skills to liaise with the client
- initiative and enterprise skills to provide feedback and recommend the most appropriate technology solutions
- literacy skills to:
 - follow documented instructions
 - interpret workplace instructions and other technical documents
 - keep up-to-date with latest industry guidelines
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the created code
 - select the most efficient and effective algorithms
- research skills to:
 - find solutions to encountered problems
 - keep up-to-date with industry trends
- technical skills to:
 - apply basic hypertext transfer protocol (HTTP)
 - apply web programming concepts
 - create hypertext markup language (HTML) and eXtensible hypertext markup language (XHTML) pages
 - create software in a variety of languages, including client and server-side languages
 - create aesthetically pleasing web pages.

Required knowledge

- web-programming concepts, including:
 - authentication and web security
 - HTTP
 - session management
 - stateless programming
- detailed knowledge of:
 - internet technology
 - programming control structures
 - object-oriented programming.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • produce dynamic web pages that include both client and server-side dynamic content • create efficient and effective code to meet technical requirements.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • appropriate learning and assessment support when required • modified equipment for people with special needs • development environment • server access • database server • browsers.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • evaluation of dynamic web applications that include both client and server-side coding • written or verbal questioning to assess knowledge and skills of internet technology.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Languages may include:	<ul style="list-style-type: none"> • active server pages (ASP) • active server pages .net (ASP.NET) • Coldfusion • JavaScript • Perl • Perl hypertext preprocessor (PHP) • VBScript.
Browsers may include:	<ul style="list-style-type: none"> • Firefox • Google Chrome • Internet Explorer • Konqueror • Lynx • Mozilla • Netscape Navigator • Opera • Safari.

Unit Sector(s)

Web

ICAWEB510A Analyse information and assign meta-tags

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAIL Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to analyse material and assign meta-tags to ensure the accurate and consistent retrieval of information by users.

Application of the Unit

This unit applies to individuals in a range of information and communications technology (ICT) areas who are required to allocate appropriate meta-tags to information.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1. Identify requirements for meta-tags	<p>1.1 Identify scope and uses of material from previous and existing business and <i>stakeholder</i> requirements process</p> <p>1.2 Determine appropriate type and structure of meta-tags, taking into account identified <i>client</i> needs, requirements and expectations</p> <p>1.3 Identify and incorporate new or contemporary client requirements and expectations</p>
2. Analyse material	<p>2.1 Use analysis and description tools, standards, precedents and techniques that are appropriate, given the nature of the material</p> <p>2.2 Ensure analysis of subject content of the material reflects expected client usage requirements</p> <p>2.3 Clearly distinguish significant information from minor information</p> <p>2.4 Ensure concepts derived from analysis of material are appropriate to the business requirements and intended use</p>
3. Create meta-tags	<p>3.1 Develop meta-tags using appropriate <i>software</i></p> <p>3.2 Ensure meta-tags represent concepts appropriately, depending on the overall purpose and intended use of the material</p> <p>3.3 Ensure meta-tags conform to general conventions and business rules</p> <p>3.4 Develop reference structure of descriptors, where required to display relationships to assist clients</p> <p>3.5 Enhance meta-tags to meet identified client needs</p>
4. Test and monitor meta-tagging practices and procedures	<p>4.1 Test meta-tagging of material and make changes, if necessary</p> <p>4.2 Regularly review meta-tagging practices and procedures to ensure that client needs are being met</p> <p>4.3 Regularly review industry developments in meta-tagging and take appropriate action to improve practices</p> <p>4.4 Check meta-tags regularly for internal consistency and compliance with established structure, rules and authorities</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - analyse materials for subject content
 - interpret client requirements
- communication skills to liaise with clients and staff
- planning and organisational skills to:
 - evaluate business requirements
 - improve meta-tagging practices over time in line with industry developments
- technical skills to:
 - conduct modelling of data processes
 - use analysis and description tools
 - use meta-tagging tools
 - write hypertext markup language (HTML).

Required knowledge

- business operating systems
- client business domain
- data modelling
- database management system (DBMS) fundamentals
- decision support systems
- document indexing and search engines
- functions and features of databases
- meta-standards, including Dublin core and simple HTML ontology extensions
- OHS principles and responsibilities.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use appropriate techniques to analyse materials for meta-tagging • use software to create meta-tags • enhance and update meta-tags in line with client needs and industry developments.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • information and materials • business requirements • metadata software • project-related documentation • OHS information • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of candidate creating meta-tags, and testing them • verbal or written questioning to assess candidate's knowledge of: <ul style="list-style-type: none"> • general conventions and business rules for meta-tagging • how reference structure of descriptors can assist clients • review of meta-tags.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined</p>

	with targeted questioning to assess required knowledge.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Stakeholder</i> may include:	<ul style="list-style-type: none"> • development team • project team • sponsor • user.
<i>Client</i> may include:	<ul style="list-style-type: none"> • external organisation • individual • internal department • internal employee.
<i>Software</i> may include:	<ul style="list-style-type: none"> • Meta Builder 2 • Tag master.

Unit Sector(s)

Web

MSACMC210A Manage the impact of change on own work

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed by an employee in a competitive manufacturing organisation which requires the employee to participate in and manage the impact of the implementation of competitive manufacturing initiatives on their own work life.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an employee in a competitive manufacturing organisation is required to positively participate in ongoing and continuous change in order for them to be implemented successfully. The employee will be expected to deal with these changes as part of a team and to give feedback from their own perspective.</p> <p>This unit requires the application of skills associated with problem solving, planning and organising and self management for assessing and managing the impact of change on own work. This unit also requires the ability to seek information and feedback from team members on the impact of changes and suggested improvements.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Examine the impact of change on own work practices	1.1. Examine changes to work flow 1.2. Examine changes to equipment/process/physical environment 1.3. Examine changes to work relationship with team members and other teams 1.4. Examine changes to data collection needs 1.5. Examine changed work for impacts on health, safety and environment 1.6. Examine changes to quality requirements 1.7. Identify any additional individual skill needs 1.8. Identify other areas requiring assistance 1.9.
2. Implement change	2.1. Review changes which may have adverse impact with team leader 2.2. Adopt changes to individual work practice 2.3. Seek assistance in gathering/processing data as required 2.4. Implement the data collection/processing and take actions on resulting information in accordance with <i>procedures</i> 2.5. Seek assistance/training to meet needs caused by change
3. Implement continuous improvement	3.1. Critically examine all changes 3.2. Identify impacts of changes both up and down the immediate <i>value chain</i> 3.3. Identify areas for improvement 3.4. Make recommendations for improvement in accordance with procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- communication
- problem solving
- reading and interpreting
- teamwork

Required knowledge

- current process and principles of operation
- sources of data on the process/plant and possible applications to information
- methods of determining own skill needs and developing skills required
- health, safety and environment (HSE) principles as relevant to own job
- basic continuous improvement principles

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the training package.	
Overview of assessment requirements	The employee will respond readily to each initiative, making its implementation easier and recommending improvements.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of commitment to a range of initiatives should be available.
What are the specific resource requirements for this unit?	Access to an organisation using competitive manufacturing.
In what context should assessment occur?	Assessment will need to occur in a workplace following competitive manufacturing.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	This unit may be assessed concurrently with any other relevant unit which relates to making a change in the workplace.
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>

EVIDENCE GUIDE	
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What evidence is required for demonstration of consistent performance?	If evidence is provided from an initial move to competitive manufacturing, then sufficient evidence may come from this initial adjustment. Where evidence is provided from a series of improvements, then it will need to be gathered from a range of initiatives to provide sufficient evidence.
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Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Managing impact of change

All Elements may be undertaken individually or as part of a team and may require assistance from the team leader for areas outside the employee's range of responsibility and authority.

Competitive manufacturing

Competitive manufacturing is used to describe the range of systemic manufacturing practice concepts and approaches. It covers but is not limited to:

- lean manufacturing
- agile manufacturing
- preventative and predictive maintenance approaches
- monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Manufacturing Resource Planning (MRP), and proprietary systems such as SAP
- statistical process control systems including six sigma and three sigma
- Just In Time (JIT), kanban and other pull related manufacturing control systems
- supply, value, and demand chain monitoring and analysis
- other continuous improvement systems.

Competitive manufacturing should be interpreted so as to take into account the stage of implementation of competitive manufacturing approaches, the enterprise's size and work organisation, culture, regulatory environment and manufacturing sector.

Procedures

Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.

For the purposes of this Training Package, 'procedures'

RANGE STATEMENT	
	also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.
Continuous improvement	Continuous improvement (also called kaizen) - the philosophy of continual improvement, that every process can and should be continually evaluated and improved in terms of time required, resources used, resultant quality, and other aspects relevant to the process.
Value chain	Competitive manufacturing organisations encompass the entire production system, beginning with the customer, and includes the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire 'enterprise' in its planning.

Unit Sector(s)

Unit Sector	CM Change/interpersonal
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMC410A Lead change in a manufacturing environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed by people who are given the responsibility of leading change processes in a manufacturing organisation. The change may be occurring in manufacturing or in the support functions of maintenance, office, warehousing etc.
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Application of the Unit

<p>Application of the unit</p>	<p>In a typical scenario, change from continuous improvement is a constant in a <i>competitive manufacturing</i> organisation. Change can however be more significant, for example, when the move to competitive manufacturing improvement processes are made, or at other times when significant changes such as the introduction of new products, processes or equipment are made. In these circumstances one or more individuals may have a particular role of leading the change and facilitating its implementation.</p> <p>This unit assumes that consultation between management and workers and other relevant personnel has already occurred and the nature and extent of the change has been agreed. This unit does not cover the negotiation of change in a formal industrial relations sense but does cover the skill needed to identify real or potential change implementation issues including those that may need to be referred to formal consultation and/or dispute settlement procedures.</p> <p>This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, planning, organising and self management in order to provide leadership in a change environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define nature and impact of change	1.1. Identify enterprise aims and objectives of the change 1.2. Identify opportunities for implementation of change within team and production environment 1.3. Determine impacts of change within team and production environment 1.4. Develop a description of the change, including its potential benefits and impacts on own work and work of team members 1.5.
2. Identify Key Performance Indicators (KPIs)	2.1. Undertake liaison with managers, engineers and other staff responsible for designing and/or implementing change 2.2. Identify Key Performance Indicators (KPIs) for own and team's area of responsibility 2.3. Communicate Key Performance Indicators (KPIs) to all relevant stakeholders 2.4. Check that data collection and processing are appropriate for Key Performance Indicators (KPIs) 2.5. Raise and resolve issues related to Key Performance Indicators (KPIs) with relevant personnel 2.6.
3. Liaise with key stakeholders	3.1. Identify key stakeholders impacted by the change 3.2. Communicate with key stakeholders within scope of authority 3.3. Identify and address <i>issues and concerns</i> of each stakeholder if within scope of authority 3.4. Develop and/or locate information required to address key concerns 3.5. Refer issues and concerns outside of scope of authority to appropriate personnel 3.6.
4. Develop a strategy to help work teams implement change	4.1. Develop a <i>work plan</i> including timetable, key performance indicators, training needs, occupational health and safety (OHS) implications, contingency plans, and responsibilities with team members and senior

ELEMENT	PERFORMANCE CRITERIA
	<p>managers, engineers and other staff responsible for designing and/or implementing change</p> <p>4.2. Make information required to support change available to team members</p> <p>4.3. Communicate/circulate draft work plan to team members, supervisors, technical experts and other appropriate personnel for comment</p> <p>4.4. Assess suggested changes and incorporated into work plan where appropriate</p> <p>4.5.</p>
5. Implement change	<p>5.1. Obtain authorisation to commence change implementation in accordance with enterprise procedures</p> <p>5.2. Implement change in accordance with work plan and enterprise OHS and consultation procedures</p> <p>5.3.</p>
6. Monitor implementation of change	<p>6.1. Maintain open communication channels with all stakeholders during implementation</p> <p>6.2. Monitor Key Performance Indicators (KPIs) during implementation</p> <p>6.3. Encourage and facilitate improvement suggestions of team members</p> <p>6.4. Identify areas requiring improvement in change implementation</p> <p>6.5. Make improvements to implementation according to enterprise procedures</p> <p>6.6.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills:

- communication techniques
- negotiation skills
- information finding and analysing/using skills
- teamwork.

Required knowledge:

- sufficient understanding of the process to contextualise the communication and understand the data requirements to produce the Key Performance Indicators (KPIs)
- project management
- motivational techniques.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.

<p>Overview of assessment requirements</p>	<p>The competent person would be able to facilitate the implementation of change by effective communication with all relevant people and by facilitating improvements to the change.</p>
<p>What critical aspects of evidence are required to demonstrate competency in this unit?</p>	<p>Evidence of changes facilitated would be required.</p>
<p>In what context should assessment occur?</p>	<p>Assessment needs to occur in an organisation implementing a significant change either to, or in a competitive manufacturing environment or by a project.</p>
<p>Are there any other units which could or should be assessed with this unit or which relate directly to this unit?</p>	<p>This unit could be assessed concurrently with other team leader units dealing with change/improvement in the organisation.</p>
<p>What method of assessment should apply?</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the elements, performance criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>

EVIDENCE GUIDE	
What evidence is required for demonstration of consistent performance?	Evidence from one significant change may be sufficient. For less significant changes, a range of changes will be needed to generate sufficient evidence.
What are the specific resource requirements for this unit?	Access to an organisation implementing a significant change to or in competitive manufacturing.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive manufacturing</p>	<p>Competitive manufacturing is used to describe the range of systemic manufacturing practice concepts and approaches. It covers but is not limited to:</p> <ul style="list-style-type: none"> • lean manufacturing • agile manufacturing • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Manufacturing Resource Planning (MRP), and proprietary systems such as SAP etc. • statistical process control systems including six sigma and three sigma • Just in Time (JIT), kanban and other pull related manufacturing control systems • supply, value, and demand chain monitoring and analysis • other continuous improvement systems. <p>Competitive manufacturing should be interpreted so as to take into account the stage of implementation of competitive manufacturing approaches, the enterprise's size and work organisation, culture, regulatory environment and manufacturing sector.</p>
<p>Team</p>	<p>Team may include work teams from all sections of the organisation including production, maintenance, technical, administration/finance, sales/marketing.</p>
<p>Change</p>	<p>The philosophy of continual improvement is that every process can and should be continually evaluated and improved in terms of time required, resources used, resultant quality, and other aspects relevant to the process.</p> <p>Superimposed on this is the concept of breakthrough change when a large change/improvement is made</p>

RANGE STATEMENT	
	which can shift the direction or operation of the organisation. Once such breakthrough change is the introduction of competitive manufacturing.
Issues and concerns	Issues and concerns may be communicated formally and informally and can include individual and group concerns as well as those expressed by and through industrial processes.
Work plan	A work plan can be written or informal but must include consideration of timetable, key performance indicators, training needs, OHS implications, contingency plans and responsibilities. The work plan must be capable of being coherently communicated to others.

Unit Sector(s)

Unit Sector	CM Change/interpersonal
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corequisite units

Corequisite units	
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Functional area

Functional Area	
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MSACMS200A Apply competitive manufacturing practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to implement basic improvement practices within a competitive manufacturing organisation. The unit focuses on bringing together the basic concepts and the holistic application of these basic concepts and processes to manufacturing. It would typically be carried out working as part of a team.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an organisation has embarked on the competitive manufacturing path. This requires certain critical skills and principles to be practised in order for competitive manufacturing to succeed. These skills are to be used within the scope of the individual's job and authority.</p> <p>This unit requires the application of skills associated with planning and organising own role within a competitive manufacturing framework. Initiative and enterprise and problem solving is also required to identify the contributions of self and others in the value chain and identify opportunities for improvement.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Focus on the basic competitive manufacturing concepts	1.1. Identify <i>customers</i> and their needs/requirements 1.2. Identify <i>suppliers</i> 1.3. Identify value contributions along the chain 1.4. Identify and recommend methods of increasing own contribution to the value chain
2. Improve the product/process value	2.1. Identify customer features/benefits in the product 2.2. Identify items which contribute to those features/benefits 2.3. Identify things which do not contribute to customer benefits/features 2.4. Recommend methods of increasing features/benefits
3. Use competitive manufacturing tools	3.1. Select appropriate tools for the job/process 3.2. Apply the tool to the job/process 3.3. Monitor the job/process and make adjustments to improve it in accordance with <i>procedures</i> 3.4. Identify own skill requirements and seek skill development if required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- communication
- planning
- teamwork
- problem solving

Required knowledge

- the customers and the benefits they derive from the products
- the suppliers and their capabilities
- product waste
- relevant tools for their job and how to apply them
- factors impacting on the product, process and waste, particularly those wholly or partially under their control (and how to control them)

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.</p>	
Overview of assessment requirements	The person will work effectively in a competitive manufacturing environment, making continual positive contributions to the improvement of the business within the scope of their job.
What are the specific resource requirements for this unit?	Access is required to an organisation implementing competitive manufacturing.
What critical aspects of evidence are required to demonstrate competency in this unit?	There should be evidence of the individual's contribution to the value chain and willing application of competitive manufacturing to their job.
In what context should assessment occur?	Assessment should occur in an organisation implementing competitive manufacturing.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit is related to all other units at this level in that it is the general implementation of competitive manufacturing. It could be assessed concurrently with any unit dealing with the <i>tools</i> of competitive manufacturing.</p> <p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMS400A Implement a competitive manufacturing system</i> which covers the intermediate skill levels in CM.
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p>

EVIDENCE GUIDE	
	The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.
What evidence is required for demonstration of consistent performance?	This should be a routine part of the operator's job and there should be evidence that these skills are practised routinely.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive manufacturing</p>	<p>Competitive manufacturing is used to describe the range of systemic manufacturing practice concepts and approaches. It covers but is not limited to:</p> <ul style="list-style-type: none"> • lean manufacturing • agile manufacturing • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Manufacturing Resource Planning (MRP), and proprietary systems such as SAP • statistical process control systems including six sigma and three sigma • Just In Time (JIT), kanban and other pull related manufacturing control systems • supply, value, and demand chain monitoring and analysis • other continuous improvement systems. <p>Competitive manufacturing should be interpreted so as to take into account the stage of implementation of competitive manufacturing approaches, the size of the enterprise, the work organisation, culture, regulatory environment and manufacturing sector.</p>
<p>Customer</p>	<p>Customer may be interpreted to be an internal customer, but typically the benefits to the final customer should be used as the basis for the identification of waste. The operator does not need to interface directly with the external customer, but should be provided with sufficient information to enable them to identify customer benefits and features.</p> <p>Supplier may be interpreted to be an internal supplier, but typically the external supplier and their abilities should be known. The operator does not need to interface directly with the external supplier, but should</p>

RANGE STATEMENT	
	be provided with sufficient information to enable them to identify supplier abilities.
Tools	Tools are used in this unit to mean the tools of competitive manufacturing such as 5S, 6 s , continuous improvement, cause effect diagrams
Procedures	<p>Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.</p> <p>For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.</p>

Unit Sector(s)

Unit Sector	CM Systems
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMS201A Sustain process improvements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to prevent implemented process improvements slipping back to former practices or digression to less efficient practices.
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Application of the Unit

Application of the unit	<p>The unit covers the skills needed to ensure that process improvements are sustained and opportunities taken to suggest further improvements.</p> <p>Improvement initiatives can be made by any of a number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to employees.</p> <p>This unit applies to an environment where continuous improvement in a manufacturing enterprise is being undertaken. The identification of the improvement may occur independently of the application of this unit. The unit can be applied to all areas of a manufacturing enterprise including production, maintenance, logistics and office functions.</p> <p>This unit requires the application of skills associated with problem solving, initiative and enterprise and self management in order to understand, implement and monitor improvement practices with the operation of plant, equipment and manufacturing processes. It also requires the ability to identify and address personal skill gaps in order to manage own ability to implement change.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement corrective actions	1.1. Identify impact of process improvements on systems in own work area 1.2. Examine process improvements to equipment, processes or products 1.3. Clarify changes to process improvements as required 1.4. Identify any additional, personal skill gaps and seek skill development 1.5. Adopt improved process
2. Check changes	2.1. Identify claimed <i>improvements</i> 2.2. Identify methods of observing claimed improvements 2.3. Check if claimed improvements are occurring and report problems in accordance with procedures
3. Check for further improvements	3.1. Look for areas of possible further improvement 3.2. Discuss further improvements with peers and supervisors 3.3. Take action to make improvements in accordance with procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<ul style="list-style-type: none"> technical competence to perform job problem solving teamwork communication
Required knowledge
<ul style="list-style-type: none"> existing procedures modified procedures

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.

<p>Overview of assessment requirements</p>	<p>The person will be able to demonstrate their willing adoption of new equipment, processes, procedures and practices as well as their expertise at implementing them and making critical reviews of their performance in line with their level of competence and authority.</p>
<p>What critical aspects of evidence are required to demonstrate competency in this unit?</p>	<p>Evidence of having sustained improvements in their own job and of assessing these improvements for their real impact.</p>
<p>What are the specific resource requirements for this unit?</p>	<p>Access to a workplace implementing competitive manufacturing strategies or appropriate simulated environment is required. No other specific resources are required.</p>
<p>In what context should assessment occur?</p>	<p>Assessment will need to occur in a workplace where improvements are occurring which impact on the operator's job and they are required to implement changes which sustain these improvements.</p> <p>The unit may also be assessed on a project basis in a simulated environment.</p>
<p>Are there any other units which could or should be assessed with this unit or which relate directly to this unit?</p>	<p>This unit may be assessed concurrently with appropriate units on continuous improvement/kaizen.</p> <p>This unit relates to improvements in a person's own area of responsibility. <i>MSACMS401A Ensure process improvements are sustained</i> is an intermediate skill level unit in the CM.</p>
<p>What method of assessment should apply?</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p>

EVIDENCE GUIDE	
	<p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
What evidence is required for demonstration of consistent performance?	Evidence should be available from multiple small changes, or from a large change which has had multiple facets implemented over a period of some months.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Performance	<p>Performance may be thought of as the rate of output of the plant compared to the rate required to meet demand.</p> <p>Performance might also be thought of in terms of takt where takt time is the allowable time to produce one product at the rate customers are demanding it. This is NOT the same as cycle time, which is the normal time to complete an operation on a product (which should be less than or equal to takt time).</p>
Procedures	<p>All work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.</p> <p>For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.</p>
Improvements	<p>Improvement procedures in some enterprises is also known by baka-yoke which is a manufacturing technique of preventing mistakes by designing the manufacturing process, equipment and tools so that an operation literally cannot be performed incorrectly. An attempt to perform incorrectly, as well as being prevented, is usually met with a warning signal of some sort; the term poka-yoke is sometimes referred to as a system where only a warning is provided.</p>

Unit Sector(s)

Unit Sector	CM Systems
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT230A Apply cost factors to work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed for an individual to identify cost components and to be able to determine in general terms the cost impacts of alternative actions.
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Application of the Unit

Application of the unit	<p>In a typical scenario, a person is required to contribute to and be involved in the assessment of cost factors in their work. This may be done individually or in a team environment.</p> <p>The person is able to assess the relative costs of the alternatives and use this as one of the key factors in making decisions. Decisions are made within the scope of the employee's authority and according to procedures. Typical decisions include those that contribute to the efficient organisation of own work and the improvement of production time and cycle times.</p> <p>This unit requires the application of skills associated with problem solving to identify cost factors and cost implications of own work and self management to apply cost effective practices.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify in own work area major cost components of product or process	1.1. Identify <i>cost components</i> in the product or <i>process</i> in own work area 1.2. Recognise the impact of current or alternative actions on costs
2. Identify constraints to cost efficiency	2.1. Identify required production/process rate and major costs 2.2. Identify costs factors under the control of the individual or team 2.3. Relate identified costs factors to impact on <i>overall cost</i> of production/process 2.4. Identify cost factors that are a constraint to cost efficiency in own work area
3. Apply cost efficient work practices	3.1. Express the implications of possible actions/changes to improve cost efficiency in simple financial terms 3.2. Identify non-financial implications of proposed changes in discussion with relevant people 3.3. Select actions which minimise overall costs 3.4. Monitor actions to ensure cost efficiency in own work area is maintained

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- basic numeracy
- problem solving
- communication

Required knowledge

- cost components of products made
- costs concepts such as expense and income
- major cost contributors to product (eg energy)
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.

<p>Overview of assessment requirements</p>	<p>The person will as part of their routine decision making aim to minimise costs. There should be evidence of their doing so.</p>
<p>What are the specific resource requirements for this unit?</p>	<p>Access to a workplace implementing competitive manufacturing strategies. No other specific resources are required.</p>
<p>What critical aspects of evidence are required to demonstrate competency in this unit?</p>	<p>Evidence of being able to identify costs factors relevant to an individual's job.</p> <p>Evidence of having made appropriate decisions to minimise overall costs.</p>
<p>In what context should assessment occur?</p>	<p>Assessment will need to occur in a workplace or by use of a work based case study.</p>
<p>Are there any other units which could or should be assessed with this unit or which relate directly to this unit?</p>	<p>This unit may be assessed concurrently with appropriate units on continuous improvement.</p>
<p>What method of assessment should apply?</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement</p>

EVIDENCE GUIDE	
	of the assessment.
What evidence is required for demonstration of consistent performance?	Evidence should be available over a period of time or from more than one process or product.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Cost components	Cost components include fixed and variable costs such as power/energy, materials, plant and equipment, production or process time including impact on salary and wages, office expenses such as telephone and government taxes and charges.
Process	Process may include a production, maintenance, logistics or office process in a manufacturing environment.
Overall cost	Overall cost may include the assessment of negative and positive financial implications. It also includes negative long term issues, such as Occupational Health and Safety (OHS), environmental and regulatory issues.

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT240A Apply 5S procedures in a manufacturing environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed for an employee to apply 5S procedures (a structured approach to housekeeping) to their own job and work area.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an organisation has decided to embark on a competitive manufacturing strategy and as part of this has adopted the philosophy of 5S as one of the tools to move down this path. The employee needs to apply 5S to their job and work area and maintain the housekeeping and other standards set by 5S.</p> <p>This unit requires the application of skills associated with planning and organising, problem solving and self management, in order to identify and implement 5S housekeeping practices.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Sort needed from un-needed	1.1. Identify all <i>items</i> in the work area 1.2. Distinguish between essential and non-essential items 1.3. Place any non-essential item in a appropriate place, not in the work area 1.4. Regularly check that only essential items are in the work area
2. Set the workplace in order	2.1. Identify the best location for each essential item 2.2. Place each essential item in its assigned location 2.3. After use immediately return each essential item to its assigned location 2.4. Regularly check that each essential item is in its assigned location
3. Shine the work area	3.1. Keep the work area clean and tidy at all times 3.2. Conduct regular housekeeping activities during shift 3.3. Ensure the work area is neat, clean and tidy at both beginning and end of shift
4. Standardise activities	4.1. Follow <i>procedures</i> 4.2. Follow checklists for activities where available 4.3. Keep the work area to specified standard
5. Sustain the 5S system	5.1. Clean up after completion of job and before commencing next job or end of shift 5.2. Identify situations where compliance to standards is unlikely and take actions specified in procedures 5.3. Inspect work area regularly for compliance to specified standard 5.4. Recommend improvements to lift the level of compliance in the workplace

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication
- planning
- organising
- prioritising
- reading and interpretation
- recording
- problem solving

Required knowledge

- meaning and application of 5S to their job
- principles of efficient workplace organisation
- purposes of 5S
- procedures relevant to job
- methods of making/recommending improvements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.	
Overview of assessment requirements	There should be evidence that the employee is routinely applying 5S principles in their routine work and that they are aware of why 5S is important.
What are the specific resource requirements for this unit?	Access to a plant implementing/practising 5S. No other specific resources re required.
What critical aspects of evidence is required to demonstrate competency in this unit?	Evidence of routine practice of 5S as part of their job.
In what context should assessment occur?	This unit needs to be assessed in a workplace practising, or beginning to implement, 5S.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit could be assessed concurrently with a unit on continuous improvement, or in conjunction with a technical unit related to the process.</p> <p>This unit differs from <i>MSACMT440A Lead 5S in a manufacturing environment</i> which applies to those who also need to help others apply 5S.</p>
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with</p>

EVIDENCE GUIDE	
	the assessee prior to the commencement of the assessment.
What evidence is required for demonstration of consistent performance?	There needs to be evidence that this is a consistent part of their routine work life, and as such, evidence is needed over an extended period.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

5S	<p>5S is a system of work organisation originally developed in Japan based around housekeeping principles.</p> <p>A close translation of the five stages in the housekeeping approach is:</p> <ul style="list-style-type: none"> • sort • set in order • shine • standardise • sustain
Sort	Sort involves keeping only what is absolutely necessary for the production process on the production floor. As a first step, clear the work area of all non-essential equipment and materials. Remove anything either not required to produce the product or adjust the machine during the process. This helps to get rid of a 'just in case' mentality.
Items in work area	Items in work area include tools, jigs/fixtures, materials/components, plant and equipment, manuals, personal items (such as bags, lunch boxes, posters), safety equipment and personal protective equipment, and any other item which happens to be in the work area.
Set in order	After removing unnecessary materials, the remaining materials must be those that are required immediately for either the machine or the job at hand. All of these materials/change/parts etc must have an assigned location on the production floor. Locations should be clearly marked and labelled to show what belongs where.
Shine	The work area should be kept clean at all times. Cleaning must be carried out to a regular daily schedule against allowed time and, on most occasions, at the end

RANGE STATEMENT	
	of a job.
Standardise	Once 5S is established, standardising activities help maintain the order and the housekeeping standards. Standardising may use procedures and checklists developed from a procedure.
Sustain	<p>Sustain means making sure that daily activities are completed every day regardless of circumstance. A job should always be cleaned up once finished regardless of the urgency of the next job. Informal inspections should be done often, at least weekly.</p> <p>Formal inspections of each area should be carried out at least monthly. Specific actions should be followed up. This will generate continuous improvement.</p>
Procedures	<p>Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the operation of the plant. They may be written, verbal, computer based or in some other form.</p> <p>For the purposes of CM, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.</p>

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT270A Use sustainable energy practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to use and make improvements in sustainable energy practices in production, maintenance and logistics.
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Application of the Unit

Application of the unit	<p>In a typical scenario, a team member will be aware of energy use. Some of this energy use is necessary but typically a large part of energy use is <i>unnecessary waste</i> and so should be eliminated. The team member will observe energy use and ensure it is according to the organisation's plans and will also engage in continuous improvement for energy use.</p> <p>This unit requires the application of skills associated with interpreting workplace information on energy use and using procedures and technology to minimise energy use and waste.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify energy use	1.1. Identify energy consuming processes in relation to own work 1.2. Recognise the type/source of <i>energy</i> consumed
2. Follow energy conservation plans	2.1. Check energy use in accordance with conservation plans 2.2. Identify most efficient or appropriate equipment or procedures to comply with conservation plans 2.3. Identify any uses which do not comply with conservation plans 2.4. Take action in accordance with procedures to bring energy use back in line with conservation plans
3. Improve energy use	3.1. Note any waste of energy use 3.2. Recommend improvements to energy use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- basic mathematics
- communication
- problem solving

Required knowledge

- types and sources of energy relevant to the process
- basic principles of energy efficiency
- process needs for energy

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.</p>	
Overview of assessment requirements	The team member will be able to identify the energy use of any/all parts of the process and recommend better ways of using it.
What are the specific resource requirements for this unit?	Access to an organisation seeking to improve its energy usage.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of conformance to energy usage plans and suggestions for improvement should be available.
In what context should assessment occur?	Assessment needs to be conducted in an organisation where energy is a significant cost component or by use of a project, simulation or case study.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT271A Use sustainable environmental practices</i> - which covers general environmental practices, and • <i>MSACMT670A Develop and manage sustainable energy practices</i> - which covers higher level aspects.
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the</p>

EVIDENCE GUIDE	
	assessment.
What evidence is required for demonstration of consistent performance?	Evidence should be available from the daily routine of the job to show that there is consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Waste</p>	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Within manufacturing, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items. <p>Waste for this unit may include activities which do not yield any benefit to the organisation or any benefit to the organisations customers.</p>
<p>Energy</p>	<p>Energy is used to mean all sources of energy used by the process be it electricity, gas or mobile transport fuel. The uses of the energy will also be potentially wide and include heating and cooling, lighting, moving materials (including pumps and conveyors), modifying materials (including cutting, forming, weaving, knitting, reacting, moulding, extruding, mixing), generating pressure/vacuum or providing motive power for equipment and transport.</p>

Unit Sector(s)

<p>Unit Sector</p>	<p>CM Tools</p>
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT271A Use sustainable environmental practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed to use and make improvements in sustainable environmental practices in production, maintenance and logistics.
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Application of the Unit

Application of the unit	<p>In a typical scenario, a team member will be aware of <i>environmental resource</i> use. Some of this is <i>necessary</i> but typically a large part of environmental resource use may be <i>unnecessary waste</i> and so should be eliminated or at least minimised. The team member will observe resource use and ensure it is according to the organisations plans and will also engage in continuous improvements for resource use.</p> <p>This unit requires the application of skills associated with applying workplace information on use of resources and managing own application of technology and workplace practices to minimise use and waste of resources.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify resource use	1.1. Identify resources used by processes in area of responsibility 1.2. Recognise the type/source of resource used 1.3. Identify sources of information to expand knowledge and understanding of resources used
2. Comply with environmental obligations	2.1. Follow procedures to ensure there is no breach of environmental regulations/licence conditions 2.2. Identify situations related to job which may lead to a breach of regulations/licence conditions
3. Follow resource conservation plans	3.1. Identify resource conservation plan/section of plan relevant to area of responsibility 3.2. Identify most efficient or appropriate equipment or processes to comply with conservation plans 3.3. Check resource use is in accordance with plan 3.4. Sort/recycle waste according to procedures 3.5. Note any uses which do not comply with plan 3.6. Take appropriate action specified in plan to bring resource use back in line with plans 3.7. Apply energy conservation plans to the use of equipment and tools
4. Improve resource use	4.1. Identify waste of resource use 4.2. Recommend improvements to resource use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- basic mathematics
- communication
- problem solving

Required knowledge

- the '3 Rs' - reduce, re-use, recycle
- regulatory/licensing requirements relevant to the process/plant
- types and sources of resource
- basic principles of resource efficiency
- process needs for resource

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.	
Overview of assessment requirements	The competent team member will be able to identify the resource use of any/all part/s of the process and recommend better ways of using it.
What are the specific resource requirements for this unit?	Access to an organisation seeking to improve its resource usage.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of conformance to resource usage plans and suggestions for improvement should be available.
In what context should assessment occur?	Assessment needs to be conducted in an organisation where resource is a significant cost component or by project, simulation or case study.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	This unit is related to: <ul style="list-style-type: none"> • <i>MSACMT270A Use sustainable energy practices - which covers energy specifically, and</i> • <i>MSACMT671A Develop and manage sustainable environmental practices - which covers the higher skill levels.</i>
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed</p>

EVIDENCE GUIDE	
	with the assessee prior to the commencement of the assessment.
What evidence is required for demonstration of consistent performance?	Evidence should be available from the daily routine of the job to show that there is consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Waste</p>	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product.</p> <p>Within manufacturing, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items. <p>Waste for this unit may include activities which do not yield any benefit to the organisation or any benefit to the organisations customers.</p>
<p>Necessary waste</p>	<p>Necessary waste is any activity or cost which does not contribute directly to customer benefit/feature in the product, and which cannot be avoided (for example regulatory compliance and fixed costs). Necessary waste cannot be eliminated but should be managed.</p>
<p>Unnecessary waste</p>	<p>Unnecessary waste is any activity or cost which does not contribute directly to customer benefit/features in the product and can be avoided. Unnecessary waste should be eliminated as quickly as practical.</p>
<p>Resource</p>	<p>Resource is used to mean resources used by the process be it raw materials, components, process water, cooling water, cleaning water and so on.</p>
<p>Recognise</p>	<p>Recognition of type of resource is at an appropriate level for the person and the area and includes things like recognising steam/electric heating, cooling water/refrigerated cooling, raw materials waste</p>

RANGE STATEMENT	
	materials.

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT280A Undertake root cause analysis

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit covers the knowledge and skills needed to undertake root cause analysis (RCA) by any person. This will often be done by people working in a team. This unit also covers the competencies needed by operators to contribute to an advanced maintenance strategy using RCA coupled with diagrams and charts.</p>
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Application of the Unit

Application of the unit	<p>In a typical scenario, the employee works in an organisation which is applying competitive manufacturing strategies. This involves the operator 'owning' their process, taking responsibility for it, undertaking root cause analysis of problems and generally contributing to increasing the <i>uptime</i> and general <i>Overall Equipment Efficiency (OEE)</i>.</p> <p>This unit requires an ability to seek and apply information from a variety of sources in order to inform problem solving analyses. Initiative and enterprise is also required to identify quick fix and permanent solutions to problems.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Recognise problems	1.1. Identify equipment/plant characteristics indicative of a problem 1.2. Identify process conditions/product characteristics indicative of a problem 1.3. Use appropriate techniques/charts to define the problem
2. Implement quick fix	2.1. Recommend/implement a quick fix within the scope of competency and authority 2.2. Use technology or processes relevant to the problem to implement quick fix
3. Determine root cause	3.1. Identify a range of possible causes 3.2. Gather information to eliminate/confirm causes 3.3. Construct a cause and effect diagram from available data 3.4. Seek assistance as required 3.5. Identify root cause
4. Develop permanent solution	4.1. Identify a range of methods of eliminating the root cause/ breaking the <i>cause tree</i> 4.2. Select the most appropriate solution 4.3. Liaise with relevant people 4.4. Recommend or implement solution within the limits of competency and authority 4.5. Monitor impact of solution and make further recommendations as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- problem solving
- communication
- documenting

Required knowledge

- root cause analysis methodology
- indicators of a problem
- principles of the process sufficient to undertake a RCA and propose solutions
- use of relevant analysis tools (eg cause/effect diagrams, Pareto charts, 4W)

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competence. It is essential for assessment and must be read in conjunction with the performance criteria, the range statement and the assessment guidelines of the relevant training package

Overview of assessment requirements	The competent operator will be able to recognise problems in their process and undertake a root cause analysis, either alone or with assistance and propose permanent solutions.
What are the specific resource requirements for this unit?	Access to an organisation using root cause analysis.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of root cause analyses undertaken should be available.
In what context should assessment occur?	Assessment will need to occur in an organisation implementing root cause analysis or by simulation or project.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit could be assessed concurrently with other units dealing with the improvement of the process.</p> <p>This unit could be co-assessed (and delivered) with:</p> <ul style="list-style-type: none"> • <i>MSAPMSUP390A Use structured problem solving tools</i> • <i>MEM15001B Perform basic statistical quality control.</i> <p>This unit is related to <i>MSACMT281A Implement a predictive maintenance strategy</i> as root cause analysis is one tool used in predictive maintenance.</p>
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include</p>

EVIDENCE GUIDE	
	<p>direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
What evidence is required for demonstration of consistent performance?	Generally a range of root cause analysis activities will be required in order to generate sufficient evidence.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Root cause	<p>There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p>
Cause tree	<p>The series of causes is referred to as the cause tree. Not all root causes are accessible and able to be eliminated. Breaking the cause tree in such a way that the problem cannot recur is an acceptable alternative.</p> <p>Not all situations can wait for the <i>root cause analysis</i> and eventual elimination of the root cause as there are serious current impacts. The <i>quick fix</i> will control these immediate impacts, but does not eliminate the root cause.</p>
Uptime	<p>Uptime refers to the overall availability of the plant - it is the inverse of downtime - or the unavailability of the plant. Ideal uptime is 100%.</p>
Appropriate techniques/charts	<p>Appropriate techniques/charts may include the following:</p> <ul style="list-style-type: none"> • control charts • Pareto charts • run charts • flow charts • cause and effect diagrams • tree diagrams • 4W analysis.
Overall Equipment Efficiency (OEE)	<p>Overall Equipment Efficiency (OEE) is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p>

RANGE STATEMENT

	<p><i>OEE = availability x performance x quality rate</i></p> <p>where:</p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set up and adjustments • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account t losses due to rejects, re-works and start up waste.
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Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSACMT440A Lead 5S in a manufacturing environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the competencies needed to facilitate and improve the 5S housekeeping environment.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an organisation is implementing or practising a 5S approach to housekeeping. While 5S places much of the responsibility on team members, team leaders needs to support, encourage and facilitate effective 5S in the workplace.</p> <p>The manufacturing environment for 5S may include the warehouse, tool shops, office etc.</p> <p>This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, planning, organising and self management in order to provide leadership in a 5S environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Facilitate the set up of 5S	1.1. Assist team members to determine what are necessary and unnecessary items in the work area 1.2. Assist team members to determine optimum assigned location for all necessary items 1.3. Liaise with relevant production and occupational health and safety (OHS) personnel in determining optimum locations 1.4. Assist team members to determine optimum location for unnecessary items 1.5. Assist team members to determine 5S schedule 1.6. Ensure <i>procedures</i> reflect 5S practices 1.7. Assist team members to achieve the required level of skill
2. Monitor 5S	2.1. Check work area for 5S implementation as part of normal routine 2.2. Identify non-conformances 2.3. Negotiate solutions to non-conformances
3. Improve the 5S	3.1. Work with team members to find areas for improvement 3.2. Assist team members to develop improvement solutions 3.3. Facilitate the availability of resources required for the improvement solution 3.4. Facilitate the implementation of the improvement solution

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills:

- communication
- planning
- organising
- prioritising
- reading and interpretation
- recording
- problem solving
- teamwork.

Required knowledge:

- meaning and application of 5S to their job
- principles of efficient workplace organisation
- purposes of 5S
- procedures relevant to job
- identification of skill gaps
- methods of addressing skill gaps
- ways of encouraging team members to find and suggest areas for improvement
- methods of making/recommending improvements
- methods of accessing required resources
- OHS

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.	
Overview of assessment requirements	There should be evidence of successful application of 5S in the person's work group and their positive interaction with it.
What critical aspects of evidence are required to demonstrate competency in this unit?	There should be evidence of the person's assisting team members to implement 5S and/or to implement improvements to 5S. There should be evidence of continuous improvement.
In what context should assessment occur?	Assessment needs to occur in a workplace practising or implementing 5S.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit could be assessed concurrently with other units relating to the team leader's interactions with their team.</p> <p>This unit differs from <i>MSACMT240A Apply 5S procedures in a manufacturing environment</i> which covers the application of 5S to the person's own work.</p>
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the elements, performance criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement</p>

EVIDENCE GUIDE	
	of the assessment.
What evidence is required for demonstration of consistent performance?	5S needs to be a routine, natural part of everyone's job. As such there should be evidence of consistent application of 5S over an extended period.
What are the specific resource requirements for this unit?	Access to a workplace implementing or practising 5S. No other specific resources are required.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.

For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (e.g. Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

5S

5S is a system of work organisation originally developed in Japan based around: A close translation of the five stages in the housekeeping approach is:

- sort
- set in order
- shine
- standardise
- sustain

Unit Sector(s)

Unit Sector	CM Tools
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corequisite units

Corequisite units	
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Functional area

Functional Area	
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MSACMT621A Develop a Just in Time (JIT) system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to plan and implement a Just in Time (JIT) production system in manufacturing. It covers both the initial JIT implementation and also the ongoing improvement and implementation of the improved system.
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Application of the Unit

<p>Application of the unit</p>	<p>In a typical scenario, an organisation decides to adopt JIT and so needs to plan and develop their JIT system. This unit covers the skills needed to both plan the implementation of JIT and also consult with employees, suppliers and customers regarding the change. This may require identification of training and other employee support as well as identifying possible logistical support.</p> <p>It includes <i>kanban</i> based JIT systems but uses JIT principles so that it is applicable to process manufacturing and other sectors and systems that are not suitable for a kanban type JIT implementation.</p> <p>This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine an effective JIT system for the enterprise. This unit also requires aspects of self management and learning to ensure feedback and new learning is integrated into the JIT design.</p> <p>This unit could be assessed concurrently with:</p> <ul style="list-style-type: none"> • <i>MSACMS601A Analyse and map a value chain, and/or</i> • <i>MSACMT650A Determine and improve process capability.</i> <p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT221A Apply Just in Time(JIT) procedures, and</i> • <i>MSACMT421A Facilitate a Just in Time (JIT) system</i> <p>which cover the lowest and intermediate skill levels in CM respectively.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	<i>MSACMC410A</i>	<i>Lead change in a manufacturing environment</i>
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Design the JIT system/system improvements	1.1. Identify <i>value chain</i> members 1.2. Consult with internal and external value chain members 1.3. Identify current storage/inventory in value chain 1.4. Determine flow authorisation indicators 1.5. Determine minimum and maximum production rate capability 1.6. Determine production lead time for products subject to JIT 1.7. Determine number of <i>cards/bins</i> and number of units per card/bin 1.8. Draft workable procedures to implement JIT
2. Implement the JIT system/improvements	2.1. Consult with key internal stakeholders to develop solutions to JIT issues 2.2. Ensure all stakeholders have required JIT related skills and related issues have been resolved 2.3. Liaise with key external members of the value chain to develop solutions to JIT issues 2.4. Develop implementation plan for JIT 2.5. Determine <i>key measures</i> of JIT
3. Monitor the JIT system	3.1. Monitor key measures of JIT 3.2. Regularly liaise with key stakeholders seeking areas for improvement 3.3. Identify areas in need of improvement

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- reading
- recording
- communicating
- planning
- analysing
- problem solving
- negotiating

Required knowledge

- needs of value chain members
- principles of JIT
- reasons for delays/storages/inventories in the value chain and methods of reducing/eliminating them
- methods of identifying skill gaps and methods of filling skill gaps
- key business objectives associated with implementing JIT
- principles of the manufacturing process relevant to the section/team
- production data generated by the process and its application to JIT

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.</p>	
Overview of assessment requirements	The person will be able to plan the initial introduction of JIT to an organisation or a process, or plan improvements to an existing JIT system.
What are the specific resource requirements for this unit?	Access to an organisation using JIT.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of the design, implementation and monitoring of a JIT system and the effective operation of the JIT system are required.
In what context should assessment occur?	Assessment needs to occur in an organisation using JIT or by use of a suitable project or case study.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit could be assessed concurrently with:</p> <ul style="list-style-type: none"> • <i>MSACMS601A Analyse and map a value chain, and/or</i> • <i>MSACMT650A Determine and improve process capability.</i> <p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT221A Apply Just in Time(JIT) procedures, and</i> • <i>MSACMT421A Facilitate a Just in Time (JIT) system</i> <p>which cover the lowest and intermediate skill levels in CM respectively.</p>
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be</p>

EVIDENCE GUIDE	
	<p>available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
What evidence is required for demonstration of consistent performance?	<p>Where evidence is gathered from the initial introduction of JIT to an organisation or a process, then this single project may generate sufficient evidence. Where evidence is gathered from continuous improvements to an existing JIT system, then it will be required from a range of improvements to generate sufficient evidence.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Just In Time (JIT)	Just In Time (JIT) is a production scheduling concept that calls for any item needed at a production operation, whether raw material, finished item, or anything in between, to be produced and available precisely when needed, neither a moment earlier nor a moment later.
Kanban	<p>Kanban - a card or sheet used to authorise production or movement of an item; when fully implemented, kanban (the plural is the same as the singular) operates according to the following rules:</p> <ul style="list-style-type: none"> • all production and movement of parts and material take place only as required by a downstream operation, i.e. all manufacturing and procurement are ultimately driven by the requirements of final assembly or the equivalent • the specific tool which authorises production or movement is called a kanban. The word literally means card or sign, but it can legitimately refer to a container or other authorizing device. Kanban have various formats and content as appropriate for their usage (eg a kanban for a vendor is different than a kanban for an internal machining operation). <p>Kanban is typically applied to batch type operation and the production is measured in units produced. In continuous manufacturing organisations, production is measured in terms of production rate (eg kg/h, tonne/day) and rate is increased/decreased according to the flow authorisation which may be a kanban (eg ticket, order from a supplier) or may be a SCADA signal from a remote facility (eg customer tank) saying that resupply is required or similar.</p>
SCADA	System Control and Data Acquisition (SCADA) is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then

RANGE STATEMENT	
	make control decisions and/or give required information personnel for action.
Value chain	Competitive manufacturing organisations encompass the entire production system, beginning with the customer, and includes the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire 'enterprise' in its planning.
Flow authorisation indicator	Flow authorisation indicator may be kanban bin, ticket or similar, or may be some other indicator of demand pull.
Pull system	Pull system - a manufacturing planning system which makes to demand, rather than for stock or to a forecast.
Cards/bins	The indicators used for production authorisation and may be physical cards or bins or some other suitable indicator.
Procedures	Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form. For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.
Key measures	Key measures may include inventory levels, lead time, IFOTIS delivery, productivity/production rate, other measures of pull through the value chain, quality. IFOTIS refers to delivery of product In Full, On Time and In Specification.

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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MSAENV272B Participate in environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This competency covers the outcomes required to effectively measure current resource use and carry out improvements including those reducing negative environmental impacts of work practices.</p> <p>This unit is based on the sustainability guideline standard GCSSUS01A Participate in environmentally sustainable work practices.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>This competency applies to operators/team members who are required to follow procedures so as to work in an environmentally sustainable manner. This ensures regulatory compliance and also aims at minimising environmental risks and maximises the environmental performance of the process and the organisation.</p> <p>It includes:</p> <ul style="list-style-type: none"> • Resources used • Potential environmental hazards • Improving environmental performance (within scope of competency and authority). <p>This competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office, warehouse etc. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>	<p>This unit has no prerequisites</p>	

Employability Skills Information

<p>Employability skills</p>	<p>This unit contains employability skills.</p>
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify current resource use and environmental issues.	1.1. Identify workplace <i>environmental and resource efficiency issues</i> . 1.2. Identify resources used in own work role. 1.3. <i>Measure</i> and record current usage of resources using <i>appropriate techniques</i> . 1.4. Identify and report workplace environmental hazards to appropriate personnel.
2. Comply with environmental regulations.	2.1. Follow <i>procedures</i> to ensure <i>compliance</i> . 2.2. Report environmental incidents to appropriate personnel.
3. Seek opportunities to improve environmental practices and resource efficiency.	3.1. Follow <i>enterprise plans</i> to improve environmental practices and resource efficiency. 3.2. Make <i>suggestions</i> for improvements to workplace practices in own work area.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include the ability to:

- report as required by procedures
- follow procedures and instructions and respond to change
- ask questions and seek clarifications relating to work requirements

Reading and writing is required in order to interpret required procedures and complete required workplace forms/reports.

Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports.

Required knowledge

Competency includes sufficient knowledge to:

- have a basic understanding of sustainability
- know the environmental hazards/risks, resource use and inefficiencies associated with own workplace (at an appropriate level)
- know the relevant environmental and resource efficiency systems and procedures for own work area
- know the impact of laws and regulations to a level relevant to the work context

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competence in this unit must be able to provide evidence of the ability to follow workplace procedures according to instructions given and to participate in the improvement of environmental and resource efficient work practices at own level of responsibility. Evidence must be strictly relevant to the particular workplace role.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- identify and measure resources used in their job
- identify situations likely to lead to an environmental incident
- follow procedures related to environmental performance.

Consistent performance should be demonstrated. For example, look to see that:

- work is routinely to procedures
- the minimum of resources is used consistent with the job requirements, good practice and the procedures.

Context of and specific resources for assessment

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Depending on the selected methods of assessment access may be required to:

- workplace procedures and plans
- documentation in relation to production, waste, overheads, hazard control/management
- reports from supervisors/managers
- case study/scenarios

Method of assessment

A holistic approach should be taken to the assessment.

Competence in this unit may be assessed:

- by demonstration in the workplace

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • using targeted questioning for appropriate portions • by use of a suitable simulation and/or a range of case studies/scenarios • by a combination of these techniques. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment.</p>
Guidance information for assessment	Assessors need to be aware of any cultural issues that may affect responses to questions. Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Procedures</p>	<p>All operations are performed in accordance with procedures including all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.</p>
<p>Environmental and resource efficiency issues</p>	<p>Environmental and resource efficiency issues include minimisation of environmental risks and maximisation of opportunities to improve business environmental performance and to promote more efficient production and consumption of natural resources, for example by:</p> <ul style="list-style-type: none"> • minimisation of waste, through implementation of the waste management hierarchy • efficient and effective use of energy and other resources • seeking alternative sources of energy • efficient use of materials and appropriate disposal of waste • use of controls to minimise the risk of environmental damage from hazardous substances • efficient water use • reducing emissions • life cycle analysis applied to issues such as energy supply, materials, transport, production
<p>Measure</p>	<p>Measure should be interpreted in a manner consistent with the scope of the job and may include things like:</p> <ul style="list-style-type: none"> • counting the number of items entering/leaving a work area • reading indicators in the work area • obtaining relevant information from support

RANGE STATEMENT	
	<p>personnel</p> <ul style="list-style-type: none"> • other simple means
Appropriate techniques	<p>Appropriate techniques include:</p> <ul style="list-style-type: none"> • material fed to/consumed by plant/equipment • plant meters and gauges • job cards including kanbans • examination of invoices from suppliers • measurements made under different conditions • examination of relevant information and data.
Compliance	<p>Compliance includes meeting relevant federal, state and local government laws, by-laws, regulations and mandated codes of practice. It also includes any codes and standards that the enterprise applies voluntarily.</p>
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> • breaches or potential breaches of regulations • occurrences outside of standard procedure which may lead to lower environmental performance.
Enterprise plans	<p>Enterprise plans include:</p> <ul style="list-style-type: none"> • documented policies and procedures • work plans to minimise waste, increase efficiency of water/energy use, minimise environmental hazards
Suggestions	<p>Suggestions include ideas that help to:</p> <ul style="list-style-type: none"> • prevent and minimise environmental risks and maximise opportunities • reduce emissions of greenhouse gases • reduce use of non-renewable resources • improve energy efficiency • increase use of renewable, recyclable, reusable and recoverable resources • reduce waste • increasing the reusability/recyclability of wastes/products • reduce water usage and/or water wastage.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Competitive manufacturing tools
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Co-requisite units

Co-requisite units		

MSAENV472B Implement and monitor environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This competency covers the outcomes required to effectively analyse the workplace in relation to environmentally sustainable work practices and to implement improvements and monitor their effectiveness.</p> <p>This unit is based on the sustainability guideline standard GCSSUS02A Implement and monitor environmentally sustainable work practices.</p>
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Application of the Unit

Application of the unit	<p>This competency applies to those who have responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.</p> <p>It includes:</p> <ul style="list-style-type: none"> • Identifying areas for improvement • Developing plans to make improvements • Implementing and monitoring improvements in environmental performance. <p>This competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office, warehouse etc. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	This unit has no prerequisites	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Investigate current practices in relation to resource usage.	1.1 Identify environmental regulations applying to the enterprise. 1.2 Assess procedures for assessing <i>compliance</i> with environmental regulations. 1.3 Collect information on environmental and resource efficiency systems and procedures, and provide to the work group where appropriate. 1.4 Measure and record current resource usage by members of the work group. 1.5 Analyse and record current purchasing strategies. 1.6 Analyse current work processes to access information and data and assist in identifying areas for improvement.
2. Set targets for improvements.	2.1 Seek input from stakeholders, key personnel and specialists. 2.2 Access external sources of information and data as required. 2.3 Evaluate alternative solutions to workplace environmental issues. 2.4 Set efficiency targets.
3. Implement performance improvement strategies.	3.1 Source <i>techniques/tools</i> to assist in achieving targets. 3.2 Apply continuous improvement strategies to own work area of responsibility and communicate ideas and possible solutions to the work group and management. 3.3 Integrate environmental and resource efficiency improvement plans for own work group with other operational activities and implement them. 3.4 Seek suggestions and ideas about environmental and resource efficiency management from stakeholders and act upon them where appropriate. 3.5 Implement costing strategies to fully value environmental assets.
4. Monitor performance.	4.1 Document outcomes and communicate reports on targets to key personnel and stakeholders. 4.2 Evaluate strategies. 4.3 Set new targets and investigate and apply new tools and strategies. 4.4 Promote successful strategies and reward participants where possible.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using relevant environmental and resource efficiency systems, tools and procedures
- applying quality assurance systems relevant to own work area
- applying relevant supply chain procedures
- measurement and calculation techniques
- communication/consultation skills to ensure information is supplied to the work group

Reading and writing is required to comprehend documentation and interpret environmental and energy efficiency requirements and to document and maintain records

Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports.

Required knowledge

Required knowledge includes:

- how to access and use relevant environmental and resource efficiency systems, tools and procedures
- understanding of best practice approaches relevant to own area of responsibility
- strategies to maximise opportunities and minimise impacts relevant to own work area
- relevant environmental and resource efficiency issues specific to industry practices
- methods for measuring and calculating resource usage

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competence in this unit must be able to provide evidence of the ability to implement and monitor integrated environmental and resource efficiency management policies and procedures within an organisation.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- monitor and investigate current resource usage
- develop plans to improve sustainability
- implement environmental improvements.

Consistent performance should be demonstrated. For example, look to see that:

- environmental performance is routinely monitored and investigated
- areas for improvements are followed through and the implemented changes are in turn monitored and investigated.

Context of and specific resources for assessment

This section should be read in conjunction with the range of variables for this unit of competency. Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation.

A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified

EVIDENCE GUIDE	
	for people with disabilities.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed:</p> <ul style="list-style-type: none"> • by demonstration in the workplace • using targeted questioning for appropriate portions • through use of specific project(s) • by use of a suitable simulation and/or a range of case studies/scenarios • by a combination of these techniques. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment.</p>
Guidance information for assessment	<p>Assessors need to be aware of any cultural issues that may affect responses to questions.</p> <p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Environmental and resource efficiency issues

Environmental and resource efficiency issues include:

- addressing environmental and resource sustainability initiatives such as Environmental Management Systems, action plans, surveys and audits
- reference to standards, guidelines and approaches such as:
 - ISO 14001 Environmental Management Systems
 - Life Cycle Analyses
 - Cradle to cradle
 - Global Reporting Initiative
 - Ecological footprinting
 - Triple Bottom Line reporting
 - Product Stewardship
- determining enterprise's most appropriate waste treatment including waste to landfill, recycling, re-use and wastewater treatment
- applying the waste management hierarchy in the workplace
- initiating and/or maintaining appropriate enterprise procedures for operational energy consumption, including stationary energy and

RANGE STATEMENT	
	<p>non stationary (transport)</p> <ul style="list-style-type: none"> • efficient use of water • minimising greenhouse gas emissions • use of controls to minimise the risk of environmental damage from hazardous substances
Measure	<p>Measuring techniques include:</p> <ul style="list-style-type: none"> • material fed to/consumed by plant/equipment • plant meters and gauges • job cards including kanbans • examination of invoices from suppliers • measurements made under different conditions • examination of relevant information and data • others as appropriate to the specific industry contexts.
Techniques and tools	<p>Techniques and tools may includeÂ : </p> <ul style="list-style-type: none"> • visual workplace concepts • measurement, display and/or recording devices • changed work practices/procedures • competence development and awareness training • process and equipment items
Compliance	<p>Compliance includes meeting relevant federal, state and local government laws, by-laws, regulations and codes of practice.</p>
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> • breaches or potential breaches of regulations • occurrences outside of standard procedure which may lead to lower environmental performance
Purchasing strategies	<p>Purchasing strategies include:</p> <ul style="list-style-type: none"> • influencing suppliers to take up environmental sustainability • selecting materials/components with a lower environmental profile.
Stakeholders, key personnel and specialists	<p>Stakeholders, key personnel and specialists include individuals and groups both inside and outside the organisation that have some direct interest in the</p>

RANGE STATEMENT	
	<p>enterprise's conduct, actions, products and services, including:</p> <ul style="list-style-type: none"> • employees at all levels of the organisation • customers • suppliers • other organisations • key personnel within the organisation, and specialists outside it who may have particular technical expertise
Suggestions	<p>Suggestions includes ideas that help to:</p> <ul style="list-style-type: none"> • prevent and minimise environmental risks and maximise opportunities • reduce emissions of greenhouse gases • reduce use of non-renewable resources • make more efficient use of energy, water and other resources • maximise opportunities to re use and recycle materials • identify strategies to offset or mitigate environmental impacts. e.g. purchasing of carbon credits • express purchasing power through the selection of suppliers with improved environmental performance. e.g. purchasing renewable energy and materials with lower embedded carbon • eliminate the use of hazardous and toxic materials increasing the reusability/recyclability of wastes/products.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Competitive manufacturing tools
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Co-requisite units

Co-requisite units		

MSAPMSUP390A Use structured problem solving tools

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the solving of process and other problems, beyond those associated directly with the process unit/equipment, using structured process improvement tools to identify improvements and/or solve problems.

Application of the Unit

Application of this unit

The competency is typically performed by an experienced operator, team leader or supervisor. Generally the person would be part of a team during the solving of complex or systemic problems and would be expected to perform all parts of this unit and at all times would be liaising and cooperating with other members of the team. This includes:

- using a range of formal problem solving techniques
- identifying and clarifying the nature of the problem
- devising the best solution
- evaluating the solution
- developing an implementation plan to rectify the problem.

This unit does not cover the solving of problems undertaken as part of the operator's normal role which is covered in the relevant operation competency unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify the problem.	1.1 Identify variances from normal operating parameters and product quality. 1.2 Define the extent, cause and nature of the problem by observation and investigation. 1.3 State and specify the problem clearly.
2. Determine fundamental cause of problem.	2.1 Identify possible causes based on experience and the use of problem solving tools/analytical techniques. 2.2 Develop possible cause statements. 2.3 Identify fundamental cause.
3. Determine corrective action.	3.1 Consider all possible options for resolution of the problem. 3.2 Consider strengths and weaknesses of possible options. 3.3 Determine corrective action to remove the problem and possible future causes. 3.4 Develop implementation plans identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures. 3.5 Develop recommendations for ongoing monitoring and testing.
4. Communicate recommendations.	4.1 Prepare report on recommendations. 4.2 Present recommendations to appropriate personnel. 4.3 Follow up recommendations if required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Competence includes a thorough knowledge and understanding of the process, normal operating parameters, and product quality to recognise non-standard situations.

This unit of competency includes use of analytical techniques in problem solving such as:

- brainstorming
- fishbone diagrams/cause and effect diagrams
- process logic/process requirements
- logic tree
- similarity/difference analysis
- Pareto analysis
- force field/SWOT analysis
- flow charts
- control charts, runcharts and graphs
- scattergrams.

Action plans to solve problems are prepared including:

- priority requirements
- measurable objectives
- resource requirements
- methods for reaching objectives
- timelines
- coordination and feedback requirements
- safety requirements
- risk assessment
- environmental requirements.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets and material labels as provided to operators.

Writing is required to the level of report writing and completing workplace forms.

Basic numeracy is also required, eg to interpret quality data and graphs.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to apply and explain:

- relevant equipment and operational processes
- enterprise policies and procedures
- enterprise goals, targets and measures
- enterprise quality, OHS and environmental requirements
- principles of decision-making strategies and techniques
- enterprise information systems and data collation
- industry codes and standards.

Consistent performance should be demonstrated. For example, look to see that:

- problems are recognised and clarified
- possible causes are identified, based on experience and use of analytical techniques in solving the problem, including:
 - identifying variations
 - identifying cause and effect
 - separating single problems from multiple problems
 - recognising recurring problems.
- fundamental cause of process or equipment faults is determined
- corrective/preventative implementation plans are developed to avoid recurrence of the problem
- implementation plan is presented to relevant personnel.

Assessment method and context

Assessment will occur on the job or in a simulated workplace.

Competence in this unit may be assessed:

- in a situation allowing the generation of evidence of the ability to recognise and respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

The competency unit applies to a wide range of processes and equipment. The process manufacturing technical units of competency include a problem solving element where problems specific to that competency unit are to be resolved. This competency unit is where structured problem solving techniques are to be applied more broadly, or with greater depth/rigour than is implied by the problem solving element of the technical units. In large plants or manufacturing organisations with multiple processes, it may apply to more than one process if those processes interact with each other. It applies to all operators across all functions.

Procedures

All operations are performed in accordance with procedures. Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Hazards

Typical hazards include leaks, spillages and equipment hazards that can occur during the walk-through of a plant.

Problems

'Anticipate and solve problems' means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/a solution recorded in the procedures.

Typical process and product problems may include:

- non- routine process and quality problems
- equipment selection, availability and failure
- teamwork and work allocation problems
- safety and emergency situations and incidents.
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Unit Sector(s)

Not applicable.

MSL933001A Maintain the laboratory/field workplace fit for purpose

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the general cleaning of work surfaces, cleaning and storage of equipment and the monitoring of laboratory stocks under direct supervision.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants and instrument operators working in all industry sectors.</p> <p>This unit of competency forms a major part of the work of laboratory assistants. They work in accordance with work instructions and standard operating procedures which incorporate all relevant aspects of occupational health and safety (OHS) legislation and the codes, guidelines, regulations and Australian standards applying to environmental hazards and dangerous goods.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Clean work preparation areas	1.1. Clean preparation areas using appropriate cleaning agents and equipment according to enterprise procedures 1.2. Remove spillages, if they occur, using appropriate agents, personal protective equipment and enterprise procedures 1.3. Collect and segregate wastes in accordance with enterprise procedures, relevant codes and regulations
2. Clean and store equipment	2.1. Collect used equipment, inspect for faults and, where necessary, remove from service 2.2. Use appropriate agents, apparatus and techniques to clean equipment 2.3. Store clean equipment in the designated locations and manner
3. Monitor stocks of materials and equipment	3.1. Perform stock checks and maintain records of usage as directed 3.2. Store labelled stocks for safe and efficient retrieval 3.3. Inform appropriate personnel of impending stock shortages to maintain continuity of supply
4. Maintain a safe work environment	4.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other personnel 4.2. Report potential hazards and/or maintenance issues in own work area to designated personnel 4.3. Minimise the generation of wastes and environmental impacts 4.4. Dispose of wastes in accordance with enterprise procedures, relevant codes and regulations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- safely cleaning work preparation areas and equipment using appropriate cleaning agents, equipment and techniques
- safely removing spillages and disposing of wastes
- minimising the exposure to hazards of self, others and the laboratory
- safely storing equipment and materials using enterprise procedures, relevant codes and guidelines
- monitoring and reporting stock levels and the condition of laboratory materials and equipment
- keeping accurate, up-to-date records
- reporting potential hazards and maintenance issues using enterprise procedures

Required knowledge

Required knowledge includes:

- enterprise procedures for the cleaning of work preparation areas, materials and equipment
- storage requirements for specific materials and equipment
- enterprise procedures for minimisation and disposal of waste
- enterprise procedures for monitoring of laboratory stocks
- information contained in material safety data sheets (MSDS) for materials handled regularly during the performance of maintenance tasks
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow enterprise procedures, relevant codes and guidelines when maintaining the laboratory/field workplace • work safely and minimise exposure of hazards to self, others and the laboratory • keep accurate up-to-date records and report potential hazards and maintenance issues.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL943002A Participate in laboratory/field workplace safety.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • access to work preparation areas, stocks, materials and equipment • cleaning, decontamination and/or disinfection agents and equipment • personal protective equipment • stock order forms, labels and records/forms.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of the candidate's techniques for cleaning and/or removal of spillages and waste disposal • review of stock records completed by the candidate • feedback from supervisors and peers • questioning to assess underpinning knowledge of regulations and procedures where direct observation is difficult (such as dealing with hazards) and choice of materials and equipment. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE	
	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>On receipt of a bulk container of cleaning or sanitising agent, a laboratory assistant always attached to the container a description of its method of use. The assistant also attached a list of the surfaces, apparatus, utensils and machines that could be safely treated with that chemical agent as outlined in the company's quality manual. This practice reduced the likelihood of misuse of the chemical, wastage, damage to equipment and inadequate cleaning and sanitation.</p> <p>Biomedical and environmental</p> <p>Laboratory assistants and technical officers routinely examine fluids for micro-organisms using a microscope. They examine fluids, such as urine, seawater, chlorinated pool water, water from catchment areas and bottled water. To maintain microscopes in working order, they thoroughly clean the stage, oculars and each objective after use and sometimes between samples. The 100X objective requires particular care since this is the oil immersion objective. The oil is slightly acidic and will slowly corrode the objective if it is not cleaned thoroughly and regularly. After using the 100X objective they also take care not to drag the other objectives through the oil.</p> <p>Food processing</p> <p>A laboratory assistant regularly uses standard pH</p>

EVIDENCE GUIDE

solutions to calibrate the laboratory's pH meters. The assistant is aware from the label that the shelf life of these solutions after opening is two months and records the opening and disposal dates on the container. The assistant is also aware that the shelf life of unopened buffer solutions is twelve months from the date of manufacture and monitors this by noting the production date on the bottle. Requests for stock replacement take into account the normal rate of use of these buffer solutions so that unopened bottles have not reached their expiry date before use.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1678 Emergency procedure guide - Transport
 - AS 1940-2004 Storage and handling of flammable and combustible liquids
 - AS 2252 Biological safety cabinets
 - AS 3780-2008 The storage and handling of corrosive substances
 - AS 4332-2004 The storage and handling of gases in cylinders
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 1269 Set:2005 Occupational noise management set
 - AS/NZS 1337 Eye protection
 - AS/NZS 2161 Set:2008 Occupational protective gloves set
 - AS/NZS 2210:1994 Occupational protective footwear
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS 2243.8:2006 Safety in laboratories - Fume cupboards
 - AS/NZS 2865 Set:2005 Safe working in a confined space set
 - AS/NZS 2982.1:1997 Laboratory design and construction - General requirements

RANGE STATEMENT

- AS/NZS 4187:2003 Cleaning, disinfecting and sterilising reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities
- AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS 4501 Set:2008 Occupational clothing set
- AS/NZS ISO 14000 Set:2005 Environmental management standards set
- animal welfare legislation and codes of practice
- Australian code of good manufacturing practice for medicinal products (GMP)
- Australian Dangerous Goods Code
- Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations 1982
- Australian Quarantine and Inspection Service (AQIS) Import Guidelines
- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice
- enterprise or standard operating procedures (SOPs)
- equipment manuals and warranties, supplier catalogues and handbooks
- gene technology regulations
- guide to physical containment levels and facility types
- HB 9-1994 Occupational personal protection
- material safety data sheets (MSDS)
- National Code of Practice for the labelling of workplace substances (NOHSC:2012 (1994))
- national environment protection measures
- National Health and Medical Research Council (NHMRC) Guidelines
- national measurement regulations and guidelines
- occupational health and safety (OHS) national standards and codes of practice
- principles of good laboratory practice (GLP)
- Therapeutic Goods Regulations 1009

RANGE STATEMENT**Equipment, material procedures and facilities**

Equipment, material procedures and facilities may include:

- animal cages
- autoclaves
- balances
- blenders, centrifuges and separating equipment
- brushes
- cell counters and staining machines
- colorimeters/spectrometers and polarimeters
- compaction rammers and soil classification equipment
- conductivity meters and pH meters
- dishwashers, refrigerators, freezers, ovens, microwave ovens, incubators and water baths
- disintegration apparatus, thermometers and incubators
- fume hoods, biohazard containers and biological safety cabinets
- gas cylinders
- glassware, plastic ware; glass, plastic and quartz cuvettes
- hotplates, mantles, burners and muffle furnaces
- instrument chart recorders, penetrometers, force measuring equipment and tensiometers
- light and fluorescence microscopes
- melting point apparatus, viscometers and hardness testing equipment
- microtomes and tissue processors
- mixing and separating equipment such as centrifuges, riffers and splitters and mixers
- noise meters and blasting meters
- optical microscopes
- pipettes, burettes and volumetric glassware
- shovels, scoops, plates, rods, cylinder moulds and buckets
- steel ruler/tapes and spirit levels
- thermometers, thermohygrographs, instrument chart recorders, hydrometers, pH meters and ion-selective electrodes
- ultrasonic cleaners
- vehicles

RANGE STATEMENT	
Typical materials	<p>Typical materials may include:</p> <ul style="list-style-type: none"> • consumable items, such as syringes, pipette tips, weigh boats • disposable clothing and personal protective equipment • distilled water, reagents, chemicals, disinfectants, detergents, agar media and plates • equipment spares, such as fuses, bulbs and batteries • oils/lubricants, fuels, industrial gases and cryogenics, such as dry ice and liquid nitrogen • paper and stationery • reference samples and standards
Maintenance	<p>Maintenance may include:</p> <ul style="list-style-type: none"> • checking serviceability before storage • cleaning • prevention of contamination • storing
Cleaning requirements	<p>Cleaning requirements may include:</p> <ul style="list-style-type: none"> • decontamination and/or disinfection • hygiene monitoring • minimising environmental impacts • operation of automatic cleaning apparatus, such as pipette washer, ultrasonic cleaners and dishwashers • sterilisation and disposal of wastes using boiling, high pressure air or steam, microwaves, chemicals, gas, filtration, ultraviolet radiation and autoclaving • use of specialised techniques, such as chromic acid baths and soaking in hypochlorite
Preparation areas	<p>Preparation areas may include:</p> <ul style="list-style-type: none"> • benches • fume cupboards • sheds • sinks
Agents for cleaning	<p>Agents for cleaning may include:</p> <ul style="list-style-type: none"> • cleaning solutions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • decontaminants • organic solvents
Spillages	<p>Spillages may include:</p> <ul style="list-style-type: none"> • chemicals • radioactive materials • biologically active materials
Wastes	<p>Wastes may include:</p> <ul style="list-style-type: none"> • broken glass • batteries • disposable personal protective equipment • excess test samples • micro-organisms • plastic and metals • sharps • solvents • spent reagents • spent samples and test pieces • used containers, boxes, bags and palettes
Stock records	<p>Stock records may include:</p> <ul style="list-style-type: none"> • calibration and maintenance history • data sheets • handbooks, warranty documents, catalogues, manuals and MSDS • records of usage, loans and breakages
Communication	<p>Communication could involve other people, such as:</p> <ul style="list-style-type: none"> • laboratory, production, administration and cleaning staff • internal/external contractors • emergency personnel
Maintenance issues	<p>Maintenance issues could involve:</p> <ul style="list-style-type: none"> • checking materials and equipment are fit for purpose • equipment malfunction • hygiene issues • potential hazards, incidents and emergencies • recycling and waste disposal

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spillages, leakages, breakages and contamination • stock requirements and shortages
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • aerosols from broken centrifuge tubes and pipetting • chemicals, such as acids, heavy metals, pesticides and hydrocarbons • crushing, entanglement and cuts associated with moving machinery or falling objects • cryogenics, such as dry ice and liquid nitrogen • electric shock • fluids under pressure, such as steam and industrial gas cylinders • manual handling, working at heights and working in confined spaces • microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • occupational overuse syndrome, slips, trips and falls • pedestrian and vehicular traffic • sharps, broken glassware and hand tools • solar radiation, dust and noise • sources of ignition, flammable liquids and gases
Established safe work practices	<p>Established safe work practices may include:</p> <ul style="list-style-type: none"> • applying containment procedures through the use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets and Class PCII, PCIII, and PCIV physical containment facilities • ensuring access to service shut-off points • following established manual handling procedures for tasks involving manual handling • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • labelling of samples, reagents, aliquoted samples and hazardous materials • recognising and observing hazard warnings and safety signs • reporting to appropriate personnel of abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates • use of MSDS • use of personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Maintenance
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

MSL954001A Obtain representative samples in accordance with sampling plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to obtain a range of samples that are representative of the source material (e.g. raw ingredients, product in process and final product) and to prepare the samples for testing. All sampling activities are conducted in accordance with a defined sampling plan. This unit does not cover the subsequent testing of the samples.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory technicians in all industry sectors. It involves:</p> <ul style="list-style-type: none"> • a range of sampling plans, samples and sampling procedures, which apply to the enterprise site, plant laboratory or field sites • enterprise products/materials and hazardous materials • a range of sampling points and/locations. <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for sampling	<ul style="list-style-type: none"> 1.1. Confirm the sampling location, number and type of samples, and timing and frequency of sampling from enterprise or client's sampling plan 1.2. Liaise with relevant personnel to arrange site access and, if appropriate, all necessary clearances and/or permits 1.3. Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit 1.4. Check that all procedures are in accordance with client or enterprise requirements, relevant standards and codes 1.5. Identify site and sampling hazards and review enterprise safety procedures 1.6. Assemble and check all sampling equipment, materials, containers and safety equipment 1.7. Arrange suitable transport to, from and around site as required
2. Conduct sampling and log samples	<ul style="list-style-type: none"> 2.1. Locate sampling sites and, if required, services at the site 2.2. Conduct representative sampling in accordance with sampling plan and defined procedures 2.3. Record all information and label samples in accordance with traceability requirements 2.4. Record environment or production conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity 2.5. Transport all samples back to base according to standard operating procedures (SOPs) and relevant codes
3. Prepare samples for testing	<ul style="list-style-type: none"> 3.1. Prepare sub-samples and back-up sub-samples that are representative of the source 3.2. Label all sub-samples to ensure traceability and store in accordance with SOPs 3.3. Follow defined preparation and safety procedures to limit hazard or contamination to samples, self, work area and environment 3.4. Distribute sub-samples to defined work stations maintaining sample integrity and traceability requirements

ELEMENT	PERFORMANCE CRITERIA
4. Address client issues	4.1. Enter approved information into laboratory information management system (LIMS) 4.2. Report all relevant aspects of the sampling and preparation phases in accordance with enterprise procedures 4.3. Ensure that information provided to client is accurate, relevant and authorised for release 4.4. Maintain security and confidentiality of all client/enterprise data and information
5. Maintain a safe work environment	5.1. Clean all equipment, containers, work area and vehicles according to enterprise procedures 5.2. Check serviceability of all equipment before storage 5.3. Use defined safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel 5.4. Minimise the generation of wastes and environment impacts 5.5. Ensure the safe collection of all hazardous wastes for appropriate disposal

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- collecting representative samples in accordance with a sampling plan
- techniques to preserve the integrity of samples
- identifying atypical materials and samples and taking appropriate action
- maintaining sampling equipment
- completing sampling records
- working safely
- following requirements for the disposal of waste and the preservation of the environment

Required knowledge

Required knowledge includes:

- principles of representative samples
- principles and procedures for random, systematic and stratified sampling, consistency of sampling procedures
- preservation of the integrity of samples
- maintaining identification of samples relative to their source
- enterprise and/or legal traceability requirements
- cost effectiveness of sampling
- characteristics of product/material to be sampled and likely contaminants
- links between quality control, quality assurance, quality management systems and sampling procedures
- enterprise procedures dealing with legislative requirements for the handling, labelling and transport of hazardous goods
- links between correct occupational health and safety (OHS) procedures and personal and environmental safety particularly at high risk sites

Specific industry

Additional knowledge requirements may apply for different industry sectors. For example: Biomedical and environmental services:

- specific legislation on biohazards
- documentation procedures for the chain of custody for samples to be used as evidence or for blood transfusion

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors should ensure that candidates can:

- collect the specified quantity of sample to enable all processing and testing to occur and back-up samples to be stored
- obtain a sample that is representative of the bulk material
- preserve the integrity of samples by closely adhering to procedures
- label samples and sub-samples to satisfy enterprise/legal traceability requirements
- identify atypical materials and samples and take appropriate action
- maintain sampling equipment in appropriate condition
- complete sampling records using enterprise procedures
- follow safety regulations and enterprise OHS procedures during sampling, transport and storage
- follow relevant legislative requirements for the disposal of waste and the preservation of the environment.

Context of and specific resources for assessment

This unit of competency is to be assessed in the workplace or simulated workplace environment.

This unit of competency may be assessed with:

- *MSL924001A Process and interpret data*
- *MSL943002A Participate in laboratory/field workplace safety*
- *relevant MSAL974000 series units of competency*
- *relevant MSAL975000 series units of competency relevant to the sampling.*

Resources may include:

- variety of sample types
- sampling plans
- a selection of sampling containers and sampling

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	equipment.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • inspection of samples collected by the candidate • review of sampling documentation completed by the candidate • feedback from peers, customers and supervisors that sampling plans were followed • questioning to assess underpinning knowledge of representative sampling procedures • observation of the candidate taking a range of samples. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>A metallurgical laboratory technician is very familiar with preparing representative samples for a range of final products in a steelmaking plant. One day, he/she is asked to sample a 50 tonne small-particle coal delivery which is believed to have a higher than acceptable sulphur content. Having never prepared representative samples for such a large quantity of material, the technician consulted their supervisor and developed an appropriate sampling plan. The technician arranged for the operator of a small front-end loader to take buckets of coal from five equally spaced points around the pile. The resulting</p>

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material was then combined and mixed in one heap. The technician coned and quartered the heap enough times to obtain a representative sample of about 5kg. He/she arranged for the unwanted material to be returned to the stockpile. On return to the laboratory, the technician crushed the sample and repeatedly coned and quartered the material to obtain an analytical portion.

Environmental

A field technician trained in sampling natural water systems is asked to sample a bright yellow industrial wastewater discharge into a small creek. The relevant sampling plan specifies that the samples should be collected where the waste water is well mixed near the centre of the creek and at the mid-depth point. The technician also notes that the samples must be collected where turbulence is at a maximum so that the settling of solids is minimal. On arrival at the site, the technician locates where the wastewater is entering the creek. He/she moves downstream to where the waste water and creek water is well mixed and there is little apparent loss of the yellow suspended solids. The technician dons the required personal protective equipment and uses a convenient bridge to collect a set of six samples and duplicates over a half-hour period using the equipment and procedures specified in the sampling plan. Using a field notebook, the technician records all information specified in the laboratory's chain of custody requirements and safety plan for handling potentially hazardous industrial waste.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS 1199 Sampling procedures and tables for inspection by attributes
 - AS 1678 Emergency procedure guide -Transport
 - AS 1940-2004 Storage and handling of flammable and combustible liquids
 - AS 3780-2008 The storage and handling of corrosive substances
 - AS 4433.2-1997 Guide to the sampling of particulate materials - Preparation of samples
 - AS/NZS 4452:1997 The storage and handling of toxic substances
- American Association of Cereal Chemists (AACC) Approved Methods of Analysis
- Australian Dangerous Goods Code
- enterprise and/or client sampling schemes and sampling plans
- enterprise recording and reporting procedures
- gene technology regulations
- material safety data sheets (MSDS)
- methods and procedures which may be written to meet enterprise, client and/or regulatory/certifying body requirements
- National Code of Practice for the labelling of workplace substances [NOHSC:2012 (1994)]
- site plans, maps and specifications

RANGE STATEMENT	
Basic principles of sampling	<p>Basic principles of sampling include:</p> <ul style="list-style-type: none"> • representative samples • preservation of integrity of samples • maintaining identification of samples relative to their source, enterprise and legal traceability • cost-effectiveness of sampling • consistency of sampling procedures • sampling principles, including random, systematic and stratified sampling
Materials sampled	<p>Materials sampled may include:</p> <ul style="list-style-type: none"> • gas or air samples • liquid samples, such as water, groundwater, waste water, stormwater, sludges and sewage • solid samples, such as soil, sediments, rocks, concrete, quarry and mining material • solid wastes • raw materials, start, middle, end of production run samples, final products and materials used in production processes, such as flocculants • plants • animals • microbiological samples
Types of samples	<p>Types of samples may include:</p> <ul style="list-style-type: none"> • grab samples • composite samples • quality control samples • research or one-off samples • environmental or survey samples
Sampling tools and equipment	<p>Sampling tools and equipment may include:</p> <ul style="list-style-type: none"> • shovels, augers and chain saws • sampling frames, sampling tubes, dip tubes, spears, flexible bladders and syringes • front-end loader, backhoe, excavator and drill rig • sample bottles or containers, plastic containers and disposable buckets • access valves • sample thief • auto samplers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pumps and stainless steel bailers • traps and cages • sterile containers, pipettes, inoculating loops and disposable spoons
Maintenance of integrity of samples	<p>Maintenance of integrity of samples may include:</p> <ul style="list-style-type: none"> • use of compatible container, such as glass, plastic, amber and opaque bottles • use of appropriate preservatives, such as sodium azide, toluene or antibiotics • decontamination of sampling tools between collection of consecutive samples • wrapping container in foil • purging of sample lines and boxes • handling and transport to avoid disturbance or damage • temperature control which may involve insulation of sample without direct contact with the coolant • wrapping in wet newspaper, cloth, sand or sawdust • transfer of sterile sample into sterile container • monitoring of storage conditions
Site and sampling hazards	<p>Site and sampling hazards may include:</p> <ul style="list-style-type: none"> • solar radiation, dust and noise • wildlife, such as snakes, spiders and domestic animals • biohazards, such as micro-organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • chemicals, such as acids and hydrocarbons • aerosols • sharps and broken glassware • manual handling of heavy sample bags and containers • crushing, entanglement and cuts associated with moving machinery and hand tools • vehicular and pedestrian traffic
Safety procedures	<p>Safety procedures may include:</p> <ul style="list-style-type: none"> • use of MSDS

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gowns, body suits, respirators and safety boots • use of biohazard containers and laminar flow cabinets • correct labelling of reagents and hazardous materials • handling, and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer's instructions, and enterprise procedures and regulations • regular cleaning and/or decontaminating equipment and work areas • machinery guards • signage, barriers, service isolation tags, traffic control and flashing lights • lockout and tag-out procedures
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Sampling
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

MSL973001A Perform basic tests

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to perform tests and measurements using standard methods with access to readily available advice from supervisors.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory/field assistants working in all industry sectors. In general, they do not calibrate equipment and make only limited adjustments to the controls. They do not interpret or analyse results or troubleshoot equipment problems.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret test requirements	1.1. Review test request to identify samples to be tested, test method and equipment involved 1.2. Identify hazards and enterprise controls associated with the sample, preparation methods, reagents and/or equipment
2. Prepare sample	2.1. Record sample description, compare with specification, record and report discrepancies 2.2. Prepare sample in accordance with appropriate standard methods
3. Check equipment before use	3.1. Set up test equipment in accordance with test method 3.2. Perform pre-use and safety checks in accordance with enterprise procedures and manufacturer's instructions 3.3. Identify faulty or unsafe equipment and report to appropriate personnel 3.4. Check calibration status of equipment and report any out of calibration items to appropriate personnel
4. Perform tests on samples	4.1. Identify, prepare and weigh or measure sample and standards to be tested 4.2. Conduct tests in accordance with enterprise procedures 4.3. Record data in accordance with enterprise procedures 4.4. Perform calculations on data as required 4.5. Identify and report out of specification or atypical results promptly to appropriate personnel 4.6. Shut down equipment in accordance with operating procedures
5. Maintain a safe work environment	5.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel 5.2. Minimise the generation of wastes and environmental impacts 5.3. Ensure safe disposal of laboratory and hazardous wastes 5.4. Clean, care for and store equipment and reagents as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting enterprise procedure or standard methods accurately
- using safety information, such as material safety data sheets (MSDS) and performing procedures safely
- checking test equipment before use
- completing all tests within required timeline without sacrificing safety, accuracy or quality
- calculating, recording and presenting results accurately and legibly
- maintaining security, integrity and traceability of all samples, data/results and documentation
- cleaning and maintaining equipment

Required knowledge

Required knowledge includes:

- concepts of metrology
- the international system of units (SI)
- purpose of test
- principles of the standard method
- pre-use equipment checks
- relevant standards/specifications and their interpretation
- sources of uncertainty in measurement and methods for control
- enterprise and/or legal traceability requirements
- interpretation and recording of test result, including simple calculations
- procedures for recognition/reporting of unexpected or unusual results
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • accurately interpret enterprise procedures or standard methods • complete all tests within the required timeline without sacrificing safety, accuracy or quality • demonstrate close attention to the accuracy and precision of measurements and the data obtained • maintain the security, integrity and traceability of all samples, data/results and documentation.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL922001A Record and present data.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate equipment standards and materials • enterprise procedures and standard methods, and equipment manuals • MSDS.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of the quality of test data/results achieved by the candidate over time • inspection of records and workplace documentation completed by the candidate • feedback from peers and supervisors • observation of the candidate performing a range of basic tests • oral or written questioning to check underpinning knowledge of test procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE

	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>Standard testing methods may be viewed as legal requirements that must be followed to ensure that a product manufactured in a chemical plant meets the specification by which it is sold to the customer. Technical assistants perform tests in a quality control laboratory to ensure that material meets legal requirements and the material is safe and effective in use. Peroxides may be present in ether as a result of light-catalysed air oxidation. Peroxides are toxic and can give rise to mixtures which are explosive when distilled. Technical assistants test ether to ensure that the level of peroxide is within acceptable limits. The test is done by shaking ether with a solution of potassium iodide. After standing for 30 minutes in the dark the yellow colour of the aqueous phase, due to the liberation of iodine, must not be more intense than a prepared standard solution. These tests ensure the quality and safety of the ether.</p> <p>Food processing</p> <p>A snack food company produces a range of high quality, impulse purchase snack foods. Some of these products are moisture and/or oxygen sensitive and are therefore packaged in multi-layer flexible packaging to provide optimum shelflife. The packaging must also be able to withstand the rigours of the production and distribution process. While the packaging is purchased to meet the shelflife and distribution specifications, the quality</p>

EVIDENCE GUIDE

assurance program requires the periodic evaluation of the packaging materials against these specifications. A laboratory assistant uses standard methods to test the tearing resistance, bursting strength, impact resistance and permeability and/or leakage of the snack food packaging. Tests are also conducted on aspects of the manufacturing process that can affect shelflife. These tests involve the measuring of the heat-seam strength and the sealing performance of the closure process. The test results are recorded by the laboratory assistant to verify the conformance of the materials to the supplier specifications and of the process to the manufacturing specifications. The assistant reports any anomalies or non-conformances to the appropriate personnel.

Construction materials testing

A technician performs an Aggregate Stripping Test (AS 1141.50) and enters the results in the laboratory's information management system (LIMS). The resulting 20-30% stripped values (i.e. 70-80% adhering) indicate a 'fail' result. The technician notes that he has repeated the test and obtained the same 'fail' result. The laboratory manager reviews the results and asks the technician to explain how he performed the test. He describes how he prepared 3-4 mm thick plates of bitumen and binding agent in the mould and then placed 50 small clean pieces of aggregate on top. After treatment in an oven for 24 hours and a 50°C water bath in accordance with the test method, the technician had then carefully pulled out the pieces of aggregate and avoiding any twisting motion. He then estimated the % of bitumen adhering to each of the stones with the expectation that the stripped value would be about 5% (i.e. 95% adhering). The manager is satisfied that the technician has performed the test in accordance with the method and suggested that he now re-run the test with a known aggregate as a control. This test gives a stripped value of 5-7% (i.e. 93-95% adhering). The manager is now sufficiently confident of the laboratory's results to sign and issue the test report and explain the aggregate's 'test failure' to the client.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- MSDS and safety procedures
- material, production and product specifications
- national measurement regulations and guidelines
- principles of good laboratory practice (GLP)
- production and laboratory schedules
- quality manuals
- standard operating procedures (SOPs)

Concepts of metrology

Concepts of metrology may include:

- that all measurements are estimates
- measurements belong to a population of measurements of the measured parameters

RANGE STATEMENT	
	<ul style="list-style-type: none"> • repeatability • precision • accuracy • significant figures • sources of error • uncertainty • traceability
Preparation of samples	<p>Preparation of samples may include:</p> <ul style="list-style-type: none"> • sub-sampling or splitting using procedures, such as riffing, coning and quartering, manual and mechanical splitters • diluting samples • physical treatments, such as ashing, dissolving, filtration, sieving, centrifugation and comminution • moulding, casting or cutting specimens
Typical tests carried out by laboratory/field assistants	<p>Typical tests carried out by laboratory/field assistants may include:</p> <ul style="list-style-type: none"> • visual/optical tests of appearance, colour, texture, identity, turbidity, refractive index (alcohol content and Baume/Brix) • physical tests: <ul style="list-style-type: none"> • density, specific gravity and compacted density • moisture content and water activity • particle size, particle shape and size distribution • chemical tests: <ul style="list-style-type: none"> • gravimetric • colorimetric • electrical conductivity (EC) and pH • specific ions using dipsticks and kits • nutrients (e.g. nitrates and orthophosphates) using basic kits • ashes, including sulphated ashes • biological/environmental tests: <ul style="list-style-type: none"> • pH, oxygen reduction potential (ORP), dissolved oxygen (DO) and (EC) • E coli using test kits

RANGE STATEMENT	
	<ul style="list-style-type: none"> • surface hygiene/presence of microbes • packaging tests: <ul style="list-style-type: none"> • tearing resistance, bursting strength and impact resistance • permeability and/or leakage • mechanical tests: <ul style="list-style-type: none"> • Emerson class • concrete slump
Measurements	<p>Measurements may include:</p> <ul style="list-style-type: none"> • simple ground surveys • meteorological parameters, such as wind direction/strength, rainfall, maximum/minimum temperature, humidity and solar radiation • simple background radiation survey • production/process parameters, such as temperature, flow and pressure • gas levels in a confined space
Common measuring equipment	<p>Common measuring equipment may include:</p> <ul style="list-style-type: none"> • dimension apparatus • DO and EC • analogue and digital meters and charts/recorders • basic chemical and biological test kits • dipsticks and site test kits (e.g. HACK) • timing devices • temperature measuring devices, such as thermometers and thermocouples
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • biohazards, such as microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • solar radiation, dust and noise • chemicals, such as sulphuric acid, fluorides and hydrocarbons • aerosols • sharps, broken glassware and hand tools

RANGE STATEMENT	
	<ul style="list-style-type: none"> • flammable liquids • dry ice and liquid nitrogen • fluids under pressure • sources of ignition • occupational overuse syndrome, slips, trips and falls • manual handling, working at heights and working in confined spaces • crushing, entanglement and cuts associated with moving machinery or falling objects
Enterprise controls to address hazards	<p>Enterprise controls to address hazards may include:</p> <ul style="list-style-type: none"> • use of MSDS • use of signage, barriers and service isolation tags • use of personal protective equipment, such as hard hats, hearing protection, sunscreen lotion, gloves, safety glasses, goggles, face guards, coveralls, gowns, body suits, respirators and safety boots • use of appropriate equipment, such as biohazard containers and cabinets and laminar flow cabinets • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions, and enterprise procedures and regulations • cleaning and decontaminating equipment and work areas regularly using recommended procedures • following established manual handling procedures for tasks involving manual handling
Minimising environmental impacts	<p>Minimising environmental impacts may involve:</p> <ul style="list-style-type: none"> • recycling of non-hazardous waste, such as chemicals, batteries, plastic, metals and glass • appropriate disposal of hazardous waste • correct disposal of excess sample/test material • correct storage and handling of hazardous

RANGE STATEMENT	
	chemicals
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units	

MSL973002A Prepare working solutions

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to prepare working solutions and to check that existing stocks are suitable for use. Calculations of quantities, choice of reagent grades and required dilutions will be specified by the supervisor.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants working in all industry sectors. Test solutions include those required to perform laboratory tests.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Safely use laboratory chemicals, glassware and equipment	1.1. Apply appropriate safety precautions for use of laboratory equipment and hazardous chemical materials 1.2. Use appropriate laboratory glassware and measuring equipment 1.3. Clean and store glassware and equipment in accordance with enterprise procedures
2. Make up working solutions	2.1. Identify the relevant standard methods for solution preparation 2.2. Assemble specified laboratory equipment 2.3. Select and prepare materials and solvent of specified purity 2.4. Measure appropriate quantities of reagents for solution preparation and record data 2.5. Prepare labels and log solution details in laboratory register 2.6. Transfer solutions to appropriately labelled containers
3. Check existing stock of solutions	3.1. Monitor shelf life of working solutions according to laboratory procedures 3.2. Replace out-of-date or reject solutions according to laboratory procedures 3.3. Conduct routine titrimetric analyses, if appropriate, to determine if solutions are fit for purpose

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using appropriate materials, equipment and procedures to prepare solutions
- following appropriate occupational health and safety (OHS), and hygiene procedures, if appropriate
- using all equipment safely and efficiently
- using enterprise procedures to calculate concentrations
- identifying solutions not fit for use
- using titrations to determine the concentration of solutions
- labelling, storing and disposing of solutions appropriately
- recording and presenting data appropriately

Required knowledge

Required knowledge includes:

- relevant biological, chemical, food and laboratory terminology
- principles of metrology
- the international system of units (SI)
- concentration terms, such as % w/w, % w/v, % v/v, ppm (mg/L) and molarity
- basic theory of acids, bases, salts, buffers and neutralisation
- enterprise procedures for preparing solutions
- calculations required to prepare specified amounts of solutions of specified concentration
- appropriate OHS procedure for preparing, handling and disposal of solutions
- use of material safety data sheets (MSDS)
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • prepare working solutions in compliance with relevant standards, appropriate procedures and/or enterprise requirements • follow OHS procedures to safely use laboratory chemicals glassware and equipment • make up working solutions according enterprise procedures • check existing stocks of solutions as being fit for purpose.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL922001A Record and present data</i> • <i>MSL943002A Participate in laboratory/field workplace safety.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate equipment and reagents • SOPs and testing methods • access to appropriate containers and storage facilities.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • inspection of solutions prepared, labelled and stored by the candidate • review of solution records and workplace documentation completed by the candidate • feedback from peers and supervisors • observation of the candidate preparing working solutions • oral or written questioning. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE

	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>When starting materials used for the manufacture of common household materials are in transit from the supplier to the manufacturer, they may degrade if subjected to conditions, such as heat, moisture, light and oxygen. Even when the supplier ships quality materials to the manufacturing plant, the materials may be sub-standard when they arrive. Quality control tests are designed to test starting materials to ensure they are within specification. For example, aspirin forms salicylic acid when stored under adverse conditions. Laboratory assistants prepare and monitor the quality of solutions, such as ferric chloride solution, which gives an intense violet colour when added to salicylic acid but gives no colour with aspirin. Absence of the violet colouration indicates that breakdown of the aspirin hasn't occurred.</p> <p>Biomedical</p> <p>A laboratory assistant made up 1 litre of buffer solution using buffer tablets and a 1 litre volumetric flask as specified in the method. To ensure the solution was suitable for use the assistant measured the pH and found it was within acceptable range. The assistant then appropriately labelled a storage vessel and stored the buffer according to requirements. By following enterprise procedures the shelf life of the buffer was maximised.</p>

EVIDENCE GUIDE**Environmental**

An environmental laboratory is contracted to determine the acidity of water samples taken from local lakes and streams. A laboratory assistant is required to make up small batches of 0.01M sodium hydroxide and to determine its concentration by titrating it against a standard solution of potassium acid phthalate using phenolphthalein indicator. This procedure is carried out monthly to ensure that the concentration of the sodium hydroxide solution is accurately known. Alternatively, the laboratory assistant may be required to prepare and standardise a fresh batch of sodium hydroxide on a monthly basis. In this case, he/she must understand the underpinning knowledge of basic acid/base theory, potential problems of interferences (such as slow absorption of carbon dioxide by sodium hydroxide solution) so as to ensure that the concentrations of workup solutions are accurately known. He/she must also be skilled in calculating and performing dilution when required to prepare such low concentrations (0.01M) of working solutions.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS 2163-2000 Laboratory glassware - Measuring cylinders
 - AS 2165-1996 Laboratory glassware - Burettes AS 2162.1-1996 Verification and use of volumetric apparatus - General - Volumetric glassware
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- MSDS and safety procedures
- material, production and product specifications
- national measurement regulations and guidelines
- principles of good laboratory practice (GLP)
- production and laboratory schedules
- quality manuals

RANGE STATEMENT	
	<ul style="list-style-type: none"> • standard operating procedures (SOPs)
Concepts of metrology	<p>Concepts of metrology may include:</p> <ul style="list-style-type: none"> • that all measurements are estimates • measurements belong to a population of measurements of the measured parameters • repeatability • precision • accuracy • significant figures • sources of error • uncertainty • traceability
Typical test solutions	<p>Typical test solutions may include:</p> <ul style="list-style-type: none"> • solutions required for diagnostic/analytical and limit tests in food and chemical laboratories, such as sulphates, chlorides and heavy metals • solutions, such as stains for standard diagnostic/analytical procedures in biomedical/environmental laboratories, such as cell staining, fixation of cells and tissues, suspension of cells and titrimetric indicators • solutions required for laboratory maintenance and disinfection, such as 70% ethanol and hypochlorite
Laboratory equipment	<p>Laboratory equipment may include:</p> <ul style="list-style-type: none"> • pH meters • balances • magnetic stirrers, water baths and hot plates • measuring cylinders, beakers, conical flasks, volumetric flasks, pipettes and burettes • filter papers and funnels • fume cupboards
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • corrosive chemicals, such as acids and alkalis • sources of heat, such as burners • sharps and broken glassware • spillages
Safety precautions	<p>Safety precautions may include:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of MSDS • use of personal protective equipment, such as safety glasses, gloves and coveralls • correct labelling of reagents and hazardous materials • handling and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer's instructions, and enterprise procedures and regulations • regular cleaning and/or decontamination of equipment and work areas
Monitoring quality of solutions	<p>Monitoring quality of solutions may include:</p> <ul style="list-style-type: none"> • noting turbidity to exclude absorption of moisture • noting deposits to exclude microbial contamination or chemical degradation • noting crystals to exclude evaporation • conducting titrations to check concentration • noting colour changes indicating a pH shift with solutions containing indicators • checking expiry dates on solution containers
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

MSL974001A Prepare, standardise and use solutions

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to prepare, standardise and monitor the quality of solutions.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory technicians working in all industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare solutions	1.1. Select appropriate procedure for solution preparation 1.2. Select equipment, materials and solvent of specified purity 1.3. Measure appropriate quantities of reagents for solution preparation and record data. 1.4. Select and assemble specified laboratory equipment and appropriate grade of glassware 1.5. Perform specified dilutions 1.6. Prepare solutions to achieve homogeneous mix of the specified concentration 1.7. Label and store solutions to maintain identity and stability
2. Standardise and use volumetric solutions	2.1. Assemble appropriate laboratory equipment 2.2. Perform serial dilutions as required 2.3. Standardise the solution to the required specified range and precision 2.4. Label and store solutions to maintain identity and stability 2.5. Use standard volumetric solutions to determine concentration of unknown solutions
3. Calculate and record data	3.1. Calculate specified concentrations 3.2. Use authorised procedure if data is to be modified 3.3. Estimate and document uncertainty of measurement in accordance with enterprise procedures, if required 3.4. Record all relevant details according to laboratory procedures and report results 3.5. Report concentration with appropriate units
4. Monitor the quality of laboratory solutions	4.1. Check solutions for visual deterioration and expiry date 4.2. Restandardise or dispose of dated or deteriorated solutions 4.3. Record details and label solutions according to laboratory procedures
5. Maintain a safe work environment	5.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel 5.2. Clean up spills using appropriate techniques to protect personnel, work area and environment 5.3. Minimise generation of waste and environmental

ELEMENT	PERFORMANCE CRITERIA
	impacts 5.4.Ensure the safe collection of laboratory and hazardous waste for subsequent disposal 5.5.Store equipment and reagents as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting and following enterprise standard operating procedures (SOPs)
- determining equivalence points using indicators and graphical methods
- using calculation methods, including appropriate units, uncertainties, balancing equations, the concentration of the solution given the chemical reaction for the titration
- using apparatus and reagents to prepare standard solutions such as balances and volumetric glassware
- selecting and using primary and secondary standards and indicators
- performing quality assurance checks for solution performance
- performing titrations
- recognising control results that are not within acceptable range
- interpreting and using safety information, such as that provided by material safety data sheets (MSDS) and follow relevant safety procedures

Required knowledge

Required knowledge includes:

- solution terminology, chemistry of acids, bases, buffers, redox reactions and complexometric reactions
- concepts of metrology
- grades of glassware, reagents and their use
- reactions used for standardisation and desirable characteristics
- enterprise communication and reporting procedures
- occupational health and safety (OHS) procedures, including those for using corrosive materials
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • use balances and volumetric glassware • select and use primary and secondary standards • select and use indicators • perform quality assurance checks for solution performance • perform titrations using laboratory procedures with required accuracy and precision and within required timelines • calculate the concentration of the solution given the chemical reaction for the titration • recognise control results that are not within acceptable range • record results to enterprise standards • label and store solutions in accordance with enterprise procedures • interpret and follow enterprise SOPs • interpret and use safety information, such as that provided by MSDS and follow relevant safety procedures.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>relevant MSAL974000 series units of competency, and</i> • <i>relevant MSAL975000 series units of competency dealing with sampling, tests and measurements.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate volumetric equipment • laboratory reagents and equipment • SOPs and testing methods.
Method of assessment	<p>The following assessment methods are suggested:</p>

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • inspection and/or testing of solutions prepared by the candidate • review of records and workplace documentation completed by candidate • review of work outputs by the candidate over time to ensure accuracy, consistency and timeliness • feedback from peers and supervisors • observation of the candidate preparing, standardising and using a range of solutions • oral or written questioning. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>A standard solution is used to determine the concentration of unknown solutions. The quality of these analyses is critically related to the accuracy with which the concentration of the standard solution is known. Therefore, laboratory technicians spend considerable effort to ensure that the materials and methods used for the preparation and standardisation will lead to a solution of accurately known concentration. For example, anhydrous sodium carbonate is often used to prepare solutions to determine the concentrations of acids. The sodium carbonate is heated at a suitable temperature to remove any trace of moisture and cooled in a dessicator. An appropriate quantity is dissolved in distilled water</p>

EVIDENCE GUIDE

and made up to volume in a volumetric flask. This solution of known concentration is then titrated with acids of unknown concentration and the concentration of the acids determined.

Environmental

A laboratory technician was required to determine the total acidity of a water sample as part of a quality control program. The total acidity was measured by titrating the water sample with sodium hydroxide of known concentration using an appropriate indicator. The concentration of the sodium hydroxide was determined via a volumetric titration against a primary standard of potassium hydrogen phthalate.

The value of the total acidity was determined by multiplying the volume of sodium hydroxide used with a numerical 'factor' which had been determined by the laboratory supervisor in order to save time. The value of the 'factor' was displayed on the titration equipment. However, a new technical assistant did the full calculation and found that his/her result differed slightly from that obtained using the 'factor'. After discussion with the laboratory supervisor it was agreed that the error was in the 'factor' and the assumption that each new batch of sodium hydroxide prepared was exactly the same concentration as all previous batches. This was incorrect as the concentration of each batch differed slightly and its actual concentration was determined accurate, using the primary standard. The procedure was changed so that the full calculation was required for all tests.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS 2163-2000 Laboratory glassware - Measuring cylinders
 - AS 2165-1996 Laboratory glassware - Burettes AS 2162.1-1996 Verification and use of volumetric apparatus - General - Volumetric glassware
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- MSDS and safety procedures
- material, production and product specifications
- national measurement regulations and guidelines
- principles of good laboratory practice (GLP)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • production and laboratory schedules • quality manuals • SOPs • waste minimisation and safe disposal procedures
Solutions	<p>Solutions may include but are not limited to:</p> <ul style="list-style-type: none"> • solutions of strong/weak acids and bases • oxidising/reducing agents • solutions used for complexometric or precipitation titrations • stains for cells and tissues, enzymes, buffers and antibodies • diluents for maintaining isotonicity • organic solutions and histological fixatives
Apparatus and reagents to prepare standard solutions	<p>Apparatus and reagents to prepare standard solutions may include:</p> <ul style="list-style-type: none"> • balances • pipettes, burettes, volumetric glassware and weighing bottles • dessicators and filtering media • ovens and muffle furnaces • solutions, indicators and primary and secondary standards • auto titrators, pH meters and other related meters and electrodes for determining equivalence points, top pan and analytical balances • magnetic stirrers and heaters, and water baths
Checking useability of solutions	<p>Checking useability of solutions may include:</p> <ul style="list-style-type: none"> • examining stained samples for correct staining reactions • performing pH checks • confirming enzyme activity • checking red cell suspensions for haemolysis • ferric chloride for phenolic solutions • isotonicity for saline
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • chemicals, such as strong acids and bases, and stains

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sharps and broken glassware • burners, hot plates, ovens and furnaces
Safe work practices	<p>Safe work practices may include:</p> <ul style="list-style-type: none"> • use of MSDS • use of personal protective equipment, such as gloves, safety glasses, goggles, faceguards, coveralls and gowns • use of biohazard containers, laminar flow cabinets and fume hoods • correct labelling of reagents and hazardous materials • handling and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer's instructions, and enterprise procedures and regulations • regular cleaning and/or decontaminating of equipment and work areas
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

SIRXCCS005A Manage business customers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to manage contracts, reinforce trading terms and negotiate deals with business customers.

Application of the Unit

Application of the unit This unit reinforces ways to negotiate and finalise legally binding contractual agreements with a range of business customers, according to company policy and legislative requirements, to meet business targets and strategic outcomes. Senior sales personnel perform this function.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Negotiate deals.	<p>1.1 Establish special deals according to <i>business policy and procedures</i>.</p> <p>1.2 Negotiate and complete deals according to business policy and procedures.</p> <p>1.3 Determine supporting <i>promotional and merchandising activities</i>.</p> <p>1.4 Negotiate optimal <i>sales and distribution arrangements</i> with customer prior to completion of deals.</p> <p>1.5 Approve special deals falling outside company policy and procedures according to business guidelines.</p> <p>1.6 Confirm <i>supply arrangements</i> for goods of services under special deals prior to completion of deals.</p> <p>1.7 Ensure deals conform to business performance and marketing objectives.</p> <p>1.8 Ensure deals are legally valid and binding.</p>

ELEMENT	PERFORMANCE CRITERIA
2 Verify trading terms.	2.1 Set trading terms for product and services. 2.2 Set trading terms for customers and accounts. 2.3 Establish procedures and policies to approve new or amended trading terms. 2.4 Communicate trading terms to internal and external personnel according to legislative and business procedures. 2.5 Confirm procedures and policies for processing breaches to trading terms and communicate to <i>relevant staff</i> . 2.6 Establish processes for reviewing trading terms. 2.7 Establish policy and procedures for managing trading terms to achieve business and customer service objectives.
3 Manage business contracts.	3.1 <i>Negotiate</i> and confirm contractual obligations and terms with <i>business customers</i> . 3.2 Apply terms and conditions of <i>contractual arrangements</i> with business account customers. 3.3 Complete requirements for amendment or variation to existing contract with a business according to business procedures and legal requirements. 3.4 Monitor performance of contract against agreed business objectives and standards. 3.5 Investigate and resolve contract variations according to contractual and business outcomes. 3.6 Resolve disputes over contracts to obtain business and customer outcomes. 3.7 Regularly complete contract reviews with customers, stakeholders and contract holders.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- interpersonal communication skills, including:
 - consultation
 - building relationships with business customers
 - presentation
 - negotiation
 - dispute resolution
- analytical and research skills
- project and contract management skills
- determine appropriate support for promotional and merchandising activities
- create guidelines for approving and implementing special deals
- time management
- literacy and numerical skills in regard to:
 - documenting plans and decisions
 - reading and interpreting information
 - financial and budget planning
 - establishing, confirming and reviewing trading terms
 - developing and amending contracts according to business procedures and legal requirements.

The following knowledge must be assessed as part of this unit:

- use and maintenance of standard business technology
- configuration of management systems
- public and private sector purchasing and procurement guidelines and rules
- relevant commercial law and legislation, including:
 - law of contract
 - trade practice law
- business policy and procedures in relation to:
 - sale and supply of products and services
 - quality assurance and control
 - approval processes
 - negotiating contracts and trading terms
 - dealing with internal and external groups and teams

REQUIRED SKILLS AND KNOWLEDGE

- principles and techniques in negotiation
- features and advantages of a contractual relationship
- elements that make a successful business partnership or relationship
- internal and external management systems
- competitor activities
- information sources on product and supply arrangements for customers
- OHS aspects of job.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- actively negotiates and finalises legally binding contractual agreements with a range of business customers according to company policy
- identifies and understands business targets and strategic goals
- manages business contacts and trading terms to achieve agreed business targets and strategic outcomes
- demonstrates a high level of ethical and personal integrity in conduct of negotiations and management of contractual relationships.

Context of and specific resources for assessment

Assessment must ensure access to:

- a workplace sales environment
- relevant documentation, such as:
 - business policy and procedures
 - information on the internal and external operating environment
- a range of business customers with different requirements.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- third-party reports from a supervisor
- customer feedback
- review of portfolio of evidence
- written or verbal questioning to assess knowledge and understanding.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Business policy and procedures
in relation to:

- sale and supply of products and services
- quality assurance and control
- interaction with clients and customers
- approval processes
- negotiating contracts and trading terms.

RANGE STATEMENT

Promotional and merchandising activities may vary to accommodate variations in:

- demographics
- economics
- competition
- social and cultural factors
- political influences
- legal factors
- natural factors
- technology.

Sales and distribution arrangements may include:

- delivery of products
- provision of services
- maintenance and support agreements
- leasing agreements and consultancies
- research and development.

Supply arrangements may relate to:

- quality
- quantity
- coverage and content
- time schedules
- cost.

Relevant staff may include:

- internal or external contacts
- employees
- supervisors
- relevant managers.

Negotiation issues may include:

- contract variations, including ability to vary or modify targets, processes and clauses
- innovations
- modification and amendment rights
- scope.

RANGE STATEMENT

Business customers may include:

- commercial enterprises
- public agencies or organisations
- governments
- community and not-for-profit organisations
- internal business units and divisions.

Contractual arrangements may include:

- letters of appointment or intent
- external contracts
- trade partners
- verbal and written orders
- purchase order
- petty cash
- memorandums of understanding or memorandums of agreement
- in-house service level agreements
- contracts
- common-use arrangements or standing offers
- contracts as detailed under the Trade Practices Act
- non-compliance
- consequences.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Client and Customer Service

SIRXCCS006A Maintain business to business relationships

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to develop and maintain enduring relationships with business customers, focusing on identification of customer needs.

Application of the Unit

Application of the unit This unit requires sales team members to identify key customer contacts, and service-specific customer needs and confirm trading terms with customer contacts to build and maintain sustainable relationships with business customers.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Develop techniques to maintain close contact with business customers.	1.1 Confirm <i>relevant contact personnel</i> at each business or account customer.
	1.2 Participate and contribute to <i>team</i> efforts to service business customers.
	1.3 Build external relationships to improve supply chain efficiency, including product or service supply, account management, product management, supply arrangements, distribution systems, information and communication.
	1.4 Maintain business customer contact consistent with <i>business policy and procedures</i> .
2 Identify business customer needs.	2.1 Confirm means to <i>identify</i> business customer needs.
	2.2 Consult relevant customer contacts to review business needs.
	2.3 Analyse current business and <i>promotional activities</i> and

ELEMENT

PERFORMANCE CRITERIA

determine future directions.

2.4 Outline and confirm *trading terms* for specific customers.

2.5 Confirm pricing policy and procedures.

2.6 Process business reviews using latest forecasts of current and future trends.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- identify and maintain key contact personnel at customer businesses
- contribute to team service to specific customers
- confirm trading terms, pricing policies and other relevant procedures to customers
- process business forecasts for implementation
- interpersonal skills
- review business needs and basic forecasts
- collect and organise information
- effective use of technology
- literacy skills to read, analyse and interpret a range of business policy and procedures documents and research information
- flexibility when communicating within teams, and responding to customers.

The following knowledge must be assessed as part of this unit:

- prioritising work schedule
- business policy and procedures for building relationships with business customers
- pricing policies
- trading terms
- information sources on product and supply arrangements for customers
- OHS aspects of job
- relevant consumer law, commercial law and legislation.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- builds sustainable relationships with business customers that deliver agreed business outcomes
- identifies key contact personnel for businesses with a given territory or customer account
- describes and utilises a range of means to accurately identify specific needs of business customers
- confirms trading terms for customers according to business policy and procedures

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail or wholesale work environment
- relevant sources of product information
- relevant documentation, such as policy and procedures manuals
- forecasts for current and future market trends
- a range of business customers with different requirements
- an appropriate range of products or services
- customer information.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- third-party reports from a supervisor
- customer feedback
- written or verbal questioning to assess knowledge and understanding.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

EVIDENCE GUIDE

Assessing employability skills Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Relevant contact personnel may include:

- new or repeat contacts
- internal and external contacts
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Team members may include:

- full-time, part-time, casual or contract staff
- people with varying degrees of language and literacy
- people from a range of cultural, social and ethnic backgrounds
- people with a range of responsibilities and job descriptions.

RANGE STATEMENT

Business policy and procedures in relation to:

- sale and distribution of products and services
- interaction with customers
- client relationship management
- pricing arrangements
- trading terms.

Methods to ***identify*** business customer needs may include:

- verbal or non-verbal communication with:
 - customer contacts
 - staff
 - supervisors and management
 - suppliers
- observation
- appropriate questioning and active listening
- review of sales records.

Promotional activities may include:

- internal and external activities
- corporate or locally based activities
- dealing with advertising agencies and consultants
- advertising
- catalogues
- newspapers
- posters
- radio or TV
- suppliers
- internet
- website.

Trading terms may be influenced by:

- due diligence requirements
- value for money
- risk sharing
- market position
- planning cycles and timing
- terms and conditions agreed
- intellectual property and technology rights
- continuous improvement
- supply chain management
- infrastructural and capital outlay requirements
- organisational systems integration and compatibility.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Client and Customer Service

SIRXSL001A Sell products and services

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to sell products and services in a retail environment. It involves the use of sales techniques and encompasses the key selling skills from approaching the customer to closing the sale. It requires a basic level of product knowledge.

Application of the Unit

Application of the unit This competency applies to frontline sales personnel. It requires the recognition and demonstration of verbal and non-verbal communication skills to determine customer requirements, sell the benefits of products and services, overcome objections and close sales. Personal evaluation is utilised to maximise sales in accordance with industry codes of practice, relevant legislation and store policy.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Apply product knowledge.	<p>1.1 Demonstrate knowledge of the use and application of relevant products and services according to <i>store policy</i> and <i>legislative requirements</i>.</p> <p>1.2 Develop <i>product knowledge</i> by accessing <i>relevant sources of information</i>.</p>
2 Approach customer.	<p>2.1 Determine and apply timing of <i>customer</i> approach.</p> <p>2.2 Identify and apply effective <i>sales</i> approach.</p> <p>2.3 Convey a positive impression to arouse customer interest.</p> <p>2.4 Demonstrate knowledge of customer buying behaviour.</p>

ELEMENT	PERFORMANCE CRITERIA
3 Gather information.	<ul style="list-style-type: none">3.1 Apply questioning techniques to determine customer buying motives.3.2 Use listening skills to determine customer requirements.3.3 Interpret and clarify non-verbal communication cues.3.4 Identify customers by name where possible.3.5 Direct customer to specific merchandise.
4 Sell benefits.	<ul style="list-style-type: none">4.1 Match customer needs to appropriate products and services.4.2 Communicate knowledge of products features and benefits clearly to customers.4.3 Describe product use and safety requirements to customers.4.4 Refer customers to appropriate product specialist as required.4.5 Answer <i>routine customer questions</i> about merchandise accurately and honestly or refer to senior sales staff.
5 Overcome objections.	<ul style="list-style-type: none">5.1 Identify and accept customer objections.5.2 Categorise objections into price, time and merchandise characteristics.5.3 Offer solutions according to store policy.5.4 Apply <i>problem solving</i> to overcome customer objections.
6 Close sale.	<ul style="list-style-type: none">6.1 Monitor, identify and respond appropriately to customer buying signals.6.2 Encourage customer to make purchase decisions.6.3 Select and apply appropriate method of closing sale.

ELEMENT

PERFORMANCE CRITERIA

7 Maximise sales opportunities.

7.1 Recognise and apply opportunities for making additional sales.

7.2 Advise customer of complementary products or services according to customer's identified need.

7.3 Review personal sales outcomes to maximise future sales.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- selling techniques, including:
 - opening techniques
 - recognising buying signals
 - strategies to focus customer on specific merchandise
 - add-ons and complementary sales
 - overcoming customer objections
 - closing techniques
 - verbal and non-verbal communication skills
 - handling difficult customers
 - negotiation skills
 - sales performance appreciation
 - questioning, listening and observation
 - literacy skills in regard to:
 - reading and understanding product information
 - reading and understanding store policies and procedures
 - recording information
 - numeracy skills in regard to:
 - handling payment for goods
 - weighing and measuring goods.

The following knowledge must be assessed as part of this unit:

- store policies and procedures, in regard to:
 - selling products and services
 - allocated duties and responsibilities
 - store merchandise and service range
 - specific product knowledge for area or section
 - relevant legislation and statutory requirements
 - relevant industry codes of practice
 - customer types and needs, including:
 - customer buying motives
 - customer behaviour and cues

REQUIRED SKILLS AND KNOWLEDGE

- individual and cultural differences
- demographics, lifestyle and income
- types of customer needs, e.g. functional, psychological.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- applies product knowledge and uses appropriate sales approach to sell the benefits of products and services, overcome objections and close sales
- uses questioning, listening and observation skills to determine customer requirements
- consistently applies store policies and procedures in regard to selling products and services
- maximises sales opportunities according to store policies and procedures
- consistently applies industry codes of practice, relevant legislation and statutory requirements in regard to selling products and services
- evaluates personal sales performance to maximise future sales.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant documentation, such as policy and procedures manuals
- a range of customers with different requirements
- a range of merchandise and products appropriate to the retail workplace
- product labels and sources of product information.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Store policy and procedures in regard to:

- interaction with customers
- selling products and services.

Legislative requirements may include:

- Trade Practices and Fair Trading Acts
- tobacco laws
- liquor laws
- lottery legislation
- industry codes of practice
- OHS
- sale of second-hand goods
- sale of X and R rated products
- trading hours
- transport, storage and handling of goods.

Product knowledge may include:

- warranties
- features and benefits
- use-by dates
- handling and storage requirements
- stock availability
- safety features
- price.

RANGE STATEMENT

Relevant sources of information may include:

- internet
- staff members
- store or supplier product manuals
- product profiles
- videos
- demonstrations
- labels
- store tours.

Customers may include:

- new or repeat contacts
- external and internal contacts
- customers with routine or special requests
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Sales transactions may be completed:

- face to face
- over the telephone
- online.

Routine customer questions may relate to:

- price and price reductions
- quality
- availability
- features and benefits.

Problem solving may be affected by:

- store policies and procedures
- resource implications.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Sales

SIRXSL002A Advise on products and services

Modification History

Not applicable.

Unit Descriptor

Unit descriptor It describes the performance outcomes, skills and knowledge required to apply a depth of specialist or general product knowledge and a need for experience and skill in offering advice to customers.

Application of the Unit

Application of the unit This unit requires the team member to develop, maintain and convey detailed and specialised product knowledge to customers and other staff in accordance with store policy and relevant legislation. Specialist sales personnel undertake this function.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Develop product and service knowledge.	1.1 Develop and maintain <i>product knowledge</i> according to <i>store policy</i> and <i>legislative requirements</i> . 1.2 Convey product knowledge to other <i>staff</i> as required. 1.3 Research and apply comparisons between products and services. 1.4 Demonstrate knowledge of competitors' product and service range and <i>pricing structure</i> .
2 Recommend specialised products or services.	2.1 Evaluate merchandise according to <i>customer requirements</i> . 2.2 Demonstrate features and benefits of products and services to <i>customer</i> to create a buying environment. 2.3 Apply detailed specialised knowledge of product to provide accurate advice to customers.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- interpersonal communication skills to:
 - convey product knowledge to staff
 - apply knowledge to provide advice to customers
 - handle difficult customers through clear and direct communication
 - ask questions to identify and confirm requirements
 - share information
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
 - using a range of communication and electronic equipment
 - accessing relevant product and service information
 - literacy skills in regard to:
 - reading and understanding product information
 - reading and understanding store policies and procedures
 - recording information
 - numerical skills in regard to:
 - estimating and calculating costs relevant to pricing products.

The following knowledge must be assessed as part of this unit:

- specialised product knowledge, including:
 - warranties
 - benefits and features
 - shelf life and use-by date
 - storage requirements
 - ingredients or materials contained in product
 - product and ingredient origins
 - care and handling of products
 - corresponding or complementary products and services
 - stock availability
 - store and industry manuals and documentation
 - stock and merchandise range
 - service range

REQUIRED SKILLS AND KNOWLEDGE

- procedures for taking orders
- pricing procedures, including GST requirements
- other relevant policies and procedures
- relevant legislation and statutory requirements
- relevant industry codes of practice.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policies and procedures and industry codes of practice in regard to customer service and selling products and services
- develops, maintains and conveys product knowledge to customers and other staff
- applies detailed and specialised product knowledge to provide accurate advice according to the needs of the customer.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- a range of stock and merchandise

relevant documentation, such as:

- price lists
- policy and procedures manuals
- a range of customers with different requirements
- a range of communication equipment.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

RANGE STATEMENT

Product knowledge may include:

- brand options
- product features and benefits
- warranties
- safety features
- use-by dates
- handling and storage requirements
- stock availability
- price.

Product knowledge may be developed and maintained by:

- accessing the internet
- attending product launches
- attending product seminars
- discussions with staff
- accessing product information booklets and pamphlets.

Store policy and procedures in regard to:

- interaction with customers
- selling products and services.

Legislative requirements may include:

- Trade Practices and Fair Trading Acts
- tobacco laws
- liquor laws
- lottery legislation
- industry codes of practice
- OHS
- sale of second-hand goods
- sale of X and R rated products
- trading hours
- transport, storage and handling of goods.

RANGE STATEMENT

Staff may include:

- full-time, part-time or casual
- under contract
- people with varying degrees of language and literacy
- people from a range of cultural, social and ethnic backgrounds
- people with a range of responsibilities and job descriptions.

Customer requirements may include:

- specific brand
- sizing
- quality
- quantity
- price range
- usage.

Customers may include:

- new or repeat contacts
- external and internal contacts
- customers with routine or special requests
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Pricing structure may include:

- sales reductions
- pricing procedures, including GST requirements
- mark-downs.

Unit Sector(s)

Sector

Cross-Sector

Competency field

Competency field Sales

SIRXSL005A Manage sales and service delivery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to monitor, maintain and improve sales and service delivery. It involves market research, developing new markets and marketing products and services within the culture of the overall store policy.

Application of the Unit

Application of the unit

This unit requires the team member to develop and maintain excellence in sales and service delivery by ensuring the provision of a well-resourced working environment for fellow staff. The team member is required to proactively pursue the continuous improvement of operations by seeking, evaluating and reporting feedback from customers and colleagues on sales and service delivery and working conditions; and locating and negotiating adequate supply of stock and other necessary resources in accordance with store policy. Those with managerial responsibility undertake this role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA	
1	Monitor, maintain and improve sales and service delivery.	1.1	Implement, communicate and review <i>policies and procedures for sales and service delivery</i> on a regular basis.
		1.2	Maintain adequate <i>resource</i> allocation for client service provision in line with <i>store policy and procedures</i> .
		1.3	Resolve <i>customer</i> complaints that have been referred by <i>staff</i> , according to store policy.
		1.4	Ensure sales and service targets and plans are consistent with quality and functional <i>specifications</i> .

ELEMENT	PERFORMANCE CRITERIA
	<p>1.5 Monitor sales and service targets and plans to ensure that customer requirements are met, and take appropriate remedial action if required.</p> <p>1.6 Communicate sales and service targets and plans to <i>relevant personnel</i> according to implementation schedules.</p> <p>1.7 Provide <i>feedback</i> to staff on operations and outcomes.</p> <p>1.8 Encourage staff to take responsibility for meeting customer requirements.</p> <p>1.9 Seek and use feedback from customers to improve future operations.</p> <p>1.10 Take corrective measures to minimise <i>factors that may cause disruption to operations</i>.</p> <p>1.11 Monitor and evaluate effectiveness of corrective actions for future operational planning.</p> <p>1.12 Ensure current and accurate <i>records</i> on sales are available to authorised personnel.</p> <p>1.13 Interpret and act on relevant reports as required.</p>
2 Negotiate supply of goods.	<p>2.1 <i>Negotiate</i> and implement <i>arrangements with suppliers</i> according to store policies and procedures and communicate to relevant personnel.</p> <p>2.2 Authorise and communicate special pricing arrangements and customer payment agreements to relevant staff and management personnel according to store policy.</p> <p>2.3 Monitor records of suppliers and stock for accuracy and legibility and take appropriate action where necessary.</p> <p>2.4 Identify and communicate to relevant personnel market factors affecting <i>supply</i>.</p> <p>2.5 Convey complete and accurate records of negotiations and agreements to appropriate personnel within designated time limits.</p> <p>2.6 Take immediate corrective action where potential or actual <i>problems with supply</i> are indicated.</p> <p>2.7 Identify and develop new suppliers to maintain and improve sales and service delivery.</p>

ELEMENT	PERFORMANCE CRITERIA
3 Establish customer requirements.	3.1 Plan and develop strategies to enhance provision of customer service according to store policy. 3.2 Research and accurately <i>analyse customer needs</i> in regard to local geographic and cultural issues.
4 Provide productive work environment.	4.1 Establish and maintain a sufficient supply of resources of the necessary quantity and quality to meet customer requirements. 4.2 Regulate and monitor access to and use of resources for maximum efficiency. 4.3 Maintain staff working conditions that meet requirements of <i>relevant legislation</i> and store policy. 4.4 Ensure that maintenance frequency and use of equipment conform to recommended schedules and procedures. 4.5 Replace, repair or adapt resources that do not meet requirements as soon as practicable and with minimum disruption to work activity. 4.6 <i>Communicate recommendations</i> for improving conditions to relevant personnel within designated timeframe. 4.7 Maintain complete, accurate records and make them available to authorised personnel.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- interpersonal communication skills to:
 - communicate with staff through clear and direct communication
 - ask questions to identify and confirm requirements
 - share information
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
 - negotiating with suppliers and customers
 - presentation skills
 - using new technology
 - literacy skills in regard to:
- researching, analysing and interpreting a broad range of written material
- preparing reports
- documenting results
 - numeracy skills in regard to:
- interpreting and maintaining data
- estimating volume
- calculating costs and pricing arrangements.

The following knowledge must be assessed as part of this unit:

- store policies and procedures in regard to:
 - sales and service delivery
 - supply specifications
 - quality assurance and control
 - stock maintenance and control
- pricing procedures, including GST requirements
 - store merchandise and service range
 - store merchandising plan
 - range and availability of new products and services
 - customer demand and market trends
 - product quality standards
 - relevant legislation and statutory requirements

REQUIRED SKILLS AND KNOWLEDGE

- relevant industry codes of practice
- principles and techniques in:
 - purchasing and supply specifications
 - stock control
 - interpersonal communication.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently maintains, monitors and evaluates sales and service delivery
- communicates sales and service targets and plans and provides feedback on operations and outcomes to relevant personnel in accordance with store policy
- proactively improves sales and service delivery operations
- accurately interprets and maintains data on sales and services delivery
- negotiates and arranges supply of goods according to store policy and procedures
- consistently authorises pricing and payment agreements according to store policy and procedures
- consistently maintains, monitors and evaluates supply of stock.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant documentation, such as:
 - policy and procedures manuals
 - sales and service delivery targets and plans
 - records of sales and service
 - legislation and statutory requirements
 - industry codes of practice
 - OHS legislation and codes of practice
 - suppliers
 - a team.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- customer feedback
- research report
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Policies and procedures for sales and service delivery may involve:

- service standards
- staff presentation
- customer complaints
- staff induction
- customer service and sales training.

Resources may include:

- people
- materials
- equipment and technology
- finances
- time.

Store policy and procedures in regard to:

- the acquisition and sale of products and services
- quality assurance and control
- interaction with customers
- interaction with other team members
- OHS.

Customers may include:

- new or repeat contacts
- external and internal contacts
- customers with routine or special requests
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

RANGE STATEMENT

Staff may include:

- full-time, part-time, casual or contract staff
- people from a range of social, cultural and ethnic backgrounds
- people with varying degrees of language and literacy levels.

Specifications may include:

- customer agreements
- operational means for meeting agreements
- specific functional duties within the organisation.

Relevant personnel may include:

- managers
- supervisors
- members of own or other work teams.

Feedback may be sought and given:

- verbally
- in writing
- in groups
- individually.

Factors that may cause disruption to operations may include:

- supply
- operational resources
- quality of materials.

Records may be:

- hard copy
- electronic.

Techniques used to *negotiate* with suppliers may include:

- face to face contact
- correspondence
- meetings
- telephone
- email.

RANGE STATEMENT

Arrangements with suppliers may relate to:

- pricing
- delivery
- partnerships and exclusivity
- credit levels.

Sources of *supply* may include:

- people
- external organisations
- internal departments and teams.

Problems with supply may involve:

- quality
- quantity
- coverage or content
- time schedules or scales
- cost.

Methods used to *analyse customer needs* may be:

- quantitative
- qualitative.

Relevant legislation may include:

- federal, state and local legislation
- OHS
- equal employment opportunity and anti-discrimination laws.

Recommendations may be communicated to:

- higher-level managers
- subordinates
- colleagues, specialists, staff from other departments
- external organisations with a health, safety or environmental responsibility
- government bodies.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Sales

SIRXSL008A Develop a sales strategy

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to develop a sales strategy to underpin the attainment of targets within a marketing plan.

Application of the Unit

Application of the unit This unit requires a sales team leader or manager to evaluate current company sales strategies against agreed targets and collaboratively plan, review and implement sales strategies to meet business goals and outcomes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Review existing sales strategy.	1.1 Review current <i>sales strategy</i> for all <i>products and services</i> . 1.2 Compare and contrast current sales strategies for products and services. 1.3 Identify <i>joint business sales strategies</i> .
2 Devise a sales strategy.	2.1 Enhance efficient decision making on sales planning through securing <i>relevant information</i> . 2.2 Use appropriate tools to complete sales <i>planning and analysis</i> activities for a specific market. 2.3 Devise sales targets. 2.4 Review and set sales targets through involvement of <i>relevant people</i> using latest data.
3 Implement sales strategy.	3.1 Ensure sales targets underpin <i>business goals and outcomes</i> . 3.2 Ensure sales strategies support marketing and promotional

ELEMENT

PERFORMANCE CRITERIA

plans.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- analysing, implementing and evaluating sales strategies
- interpersonal communication skills to:
 - present reports and present to groups and consult through clear and direct communication
 - ask questions to identify and confirm requirements
 - share information
 - give instructions
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
 - literacy skills in regard to:
 - documenting strategic plans
 - accessing, reading and interpreting information
 - numeracy skills in regard to:
 - interpreting and maintaining data
- setting territory sales targets that link to sales, marketing and strategic plans.

The following knowledge must be assessed as part of this unit:

- business policy and procedures in regard to:
- strategic planning
- sales and service delivery
 - principles and techniques in interpersonal communication
 - business merchandise and service range
 - existing sales plans
 - joint promotional programs
 - business and direct customer requirements
 - information sources and their reliability and accuracy
 - marketing and promotional planning targets
 - OHS aspects of job
 - relevant commercial law and legislation.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- accesses, analyses and integrates information regarding current company sales strategies
- develops realistic sales strategy targets that relate to strategic and business planning targets
- develops a successful sales strategy for a product or service in consultation with relevant personnel
- establishes procedures and mechanisms to collect and report on sales strategy during the development stage
- presents concise implementation procedures and review mechanisms for a sales strategy.

Context of and specific resources for assessment

Assessment must ensure access to:

- a sales-oriented work environment
- relevant documentation, such as:
 - strategic plans
 - information on the internal and external operating environment
 - a team.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- review of portfolios of evidence
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

RANGE STATEMENT

Key elements of a *sales strategy* may include:

- promotional activities
- sales techniques
- territory management
- rapport building
- product knowledge
- administration procedures and requirements
- time management
- negotiation skills.

Products and services may be grouped by:

- brand
- merchandise classification
- category
- range
- customer.

Sales strategy may vary according to:

- product or service
- merchandising and sales strategy
- discount periods, e.g. annual sale
- promotional strategies and their duration, cycle, territory coverage and product or service focus.

Joint business sales strategies will vary based on:

- product, range, line, or category performance requirements
- objectives such as those for price, profit, brand share, market share.

Relevant information may include:

- current performance data
- sales and contracts
- forecasted trends and opportunities
- available resource commitments and capacity.

RANGE STATEMENT

Planning and analysis activities for a specific market may include consideration of:

- location
- product and service mix
- packaging or presentation
- quality factors (time, cost, variations)
- access
- continuity.

Relevant people may include:

- internal or external consultants
- employees
- supervisors
- relevant managers.

Business goals and outcomes may include:

- key performance indicators
- strategic objectives
- price
- market and sales indicators
- brand value
- quality standards and criteria
- performance benchmarks
- milestones.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Sales

TAEASS402B Assess competence

Modification History

Version	Comments
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TAEASS402B	Released with <i>TAE10 Training and Education Training Package version 2.0</i>
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Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to assess the competence of a candidate.

Application of the Unit

This unit typically applies to assessors.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
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<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>
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Elements and Performance Criteria

1. Prepare for assessment	<p>1.1 Interpret <i>assessment plan</i> and confirm organisational, legal and ethical requirements for conducting assessment with relevant people</p> <p>1.2 Access and interpret relevant <i>benchmarks for assessment</i> and nominated <i>assessment tools</i> to confirm the requirements for evidence to be collected</p> <p>1.3 Arrange identified material and physical resource requirements according to assessment system policies and procedures</p> <p>1.4 Organise <i>specialist support</i> required for assessment</p> <p>1.5 Explain, discuss and agree details of the assessment plan with candidate</p>
2. Gather quality evidence	<p>2.1 Use agreed <i>assessment methods</i> and instruments to gather, organise and document evidence in a format suitable for determining competence</p> <p>2.2 Apply the principles of assessment and rules of evidence in gathering quality evidence</p> <p>2.3 Determine opportunities for evidence gathering in actual or simulated activities through consultation with the candidate and relevant personnel</p> <p>2.4 Determine opportunities for integrated assessment activities and document any changes to assessment instruments where required</p>
3. Support the candidate	<p>3.1 Guide candidates in gathering their own evidence to support recognition of prior learning (RPL)</p> <p>3.2 Use appropriate communication and interpersonal skills to develop a professional relationship with the candidate that reflects sensitivity to <i>individual differences</i> and enables two-way <i>feedback</i></p> <p>3.3 Make decisions on reasonable adjustments with the candidate, based on candidate's needs and characteristics</p> <p>3.4 Access required specialist support in accordance with the assessment plan</p> <p>3.5 Address any OHS risk to person or equipment immediately</p>
4. Make the assessment decision	<p>4.1 Examine collected evidence and evaluate it to ensure that it reflects the evidence required to demonstrate competence</p> <p>4.2 Use judgement to infer whether competence has been demonstrated, based on the available evidence</p> <p>4.3 Make assessment decision in line with agreed assessment procedures and according to agreed assessment plan</p> <p>4.4 Provide clear and constructive feedback to candidate regarding</p>

	the assessment decision and develop any follow-up action plan required
5. Record and report the assessment decision	5.1 Record assessment outcomes promptly and accurately 5.2 Complete and process an assessment report according to agreed assessment procedures 5.3 Inform other relevant parties of the assessment decision according to confidentiality conventions
6. Review the assessment process	6.1 Review the assessment process in <i>consultation</i> with relevant people to improve own future practice 6.2 Document and record the review according to relevant assessment system policies and procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analysis and interpretation skills to:
 - break down competency standards
 - interpret assessment tools and other assessment information, including those used in RPL
 - identify candidate needs
 - make judgements based on assessment of available evidence
- observation skills to:
 - recognise candidate's prior learning
 - determine candidate's performance
 - identify when candidate may need assistance during the assessment processes
- research and evaluation skills to:
 - access required human and material resources for assessment
 - access assessment system policies and procedures
 - access RPL policies and procedures
 - evaluate evidence
 - evaluate assessment process
- cognitive skills to:
 - weigh up the evidence and make a judgement
 - consider and recommend reasonable adjustments
- decision-making skills to:
 - recognise a candidate's prior learning
 - make a decision on a candidate's competence
- literacy skills to:
 - read and interpret relevant information to conduct assessment
 - prepare required documentation and records or reports of assessment outcomes in required format
- communication and interpersonal skills to:
 - explain the assessment, including RPL process
 - give clear and precise instructions
 - ask effective questions
 - provide clarification
 - discuss process with other relevant people
 - give appropriate feedback
 - discuss assessment outcome
 - use language appropriate to candidate and assessment environment
 - establish a working relationship with candidate.

Required knowledge

- competency-based assessment, including:
 - vocational education and training as a competency-based system
 - criterion-referenced assessment as distinct from norm-referenced assessment
 - competency standards as the basis of qualifications
 - structure and application of competency standards
 - principles of assessment and how they are applied
 - rules of evidence and how they are applied
 - range of assessment purposes and assessment contexts, including RPL
 - different assessment methods, including suitability for gathering various types of evidence, suitability for content of units, and resource requirements and associated costs
 - reasonable adjustments and when they are applicable
 - types and forms of evidence, including assessment instruments that are relevant to gathering different types of evidence used in competency-based assessment, including RPL
 - potential barriers and processes relating to assessment tools and methods
 - assessment system, including policies and procedures established by the industry, organisation or training authority
- RPL policies and procedures established by the organisation
- cultural sensitivity and equity considerations
- relevant policy, legislation, codes of practice and national standards, including commonwealth and state or territory legislation that may affect training and assessment in the vocational education and training sector, such as:
 - copyright and privacy laws in terms of electronic technology
 - security of information
 - plagiarism
 - training packages and competency standards
 - licensing requirements
 - industry and workplace requirements
 - duty of care under common law
 - recording information and confidentiality requirements
 - anti-discrimination, including equal employment opportunity, racial vilification and disability discrimination
 - workplace relations
 - industrial awards and enterprise agreements
- OHS responsibilities associated with assessing competence, such as:
 - requirements for reporting hazards and incidents
 - emergency procedures
 - procedures for use of relevant personal protective equipment
 - safe use and maintenance of relevant equipment

- sources of OHS information.
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Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • assess competence of a number of candidates within the vocational education and training context against different units of competency or accredited curricula, following the relevant assessment plan • assess at least one candidate for RPL • consider reasonable adjustment and the reasons for decisions in at least one assessment • cover an entire unit of competency and show: <ul style="list-style-type: none"> • the application of different assessment methods and instruments involving a range of assessment activities and events • two-way communication and feedback • how judgement was exercised in making the assessment decision • how and when assessment outcomes were recorded and reported • assessment records and reports completed in accordance with assessment system and organisational, legal and ethical requirements • how the assessment process was reviewed.
Context of and specific resources for assessment	Evidence must be gathered in the workplace whenever possible. Where no workplace is available, a simulated workplace must be provided.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Assessment plan</i> may include:</p>	<ul style="list-style-type: none"> • overall planning, describing: <ul style="list-style-type: none"> • what is to be assessed • when assessment is to take place • where assessment is to take place • how assessment is to take place.
<p><i>Benchmarks for assessment:</i></p>	<ul style="list-style-type: none"> • refer to a criterion against which the candidate is assessed • may be a competency standard/unit of competency, assessment criteria of course curricula, performance specifications, or product specifications.
<p><i>Assessment tools</i> include:</p>	<ul style="list-style-type: none"> • the learning or competency unit(s) to be assessed • the target group, context and conditions for the assessment • the tasks to be administered to the candidate • an outline of the evidence to be gathered from the candidate • the evidence criteria used to judge the quality of performance (i.e. the assessment decision-making rules) • the administration, recording and reporting requirements • the evidence of how validity and reliability have been tested and built into the design and use of the tool.
<p><i>Specialist support</i> may include:</p>	<ul style="list-style-type: none"> • assistance by third party, such as carer or interpreter • support from specialist educator • provision of developed online assessment activities • support for remote or isolated candidates and assessors • support from subject matter or safety experts • advice from regulatory authorities • assessment teams and panels • support from lead assessors • advice from policy development experts.
<p><i>Assessment methods</i> include:</p>	<ul style="list-style-type: none"> • particular techniques used to gather different types of evidence, such as: <ul style="list-style-type: none"> • direct observation

	<ul style="list-style-type: none"> • structured activities • oral or written questioning • portfolios of evidence • review of products • third-party feedback.
Individual differences may include:	<ul style="list-style-type: none"> • English language, literacy and numeracy barriers • physical impairment or disability • intellectual impairment or disability • medical condition that may impact on assessment, such as arthritis, epilepsy, diabetes and asthma • learning difficulties • mental or psychological disability • religious and spiritual observances • cultural images and perceptions • age • gender.
Feedback may include:	<ul style="list-style-type: none"> • ensuring assessment/RPL process is understood • ensuring candidate concerns are addressed • enabling questions and answers • confirming outcomes • identifying further evidence to be provided • discussing action plans • confirming gap training needed • providing information regarding available appeal processes • suggesting improvements in evidence gathering and presentation.
Consultation may involve:	<ul style="list-style-type: none"> • moderation with other assessors, or training and assessment coordinators • discussions with client, team leaders, managers, RPL coordinators, supervisors, coaches and mentors • technical and subject experts • English language, literacy and numeracy experts.

Unit Sector(s)

Assessment

Custom Content Section

Not applicable.

TAEDEL402A Plan, organise and facilitate learning in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to plan, organise and facilitate learning for individuals in a workplace.
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Application of the Unit

Application of the unit	This unit typically applies to a person working as an entry level trainer, teacher or facilitator, team leader or workplace supervisor, or any employee responsible for guiding learning through work.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish effective work environment for learning	1.1. Establish and agree upon objectives and scope of the work-based learning 1.2. Analyse work practices and routines to determine their effectiveness in meeting established learning objectives 1.3. Identify and address <i>OHS implications</i> of using work as the basis for learning
2. Develop a work-based learning pathway	2.1. Address <i>contractual requirements</i> and responsibilities for learning at work 2.2. Arrange for integration and monitoring of external learning activities with the <i>work-based learning pathway</i> 2.3. Obtain agreement from relevant personnel to implement the work-based learning pathway
3. Establish the learning-facilitation relationship	3.1. Identify context for learning and individual's learning style 3.2. Select appropriate technique or process to facilitate learning and explain the basis of the technique to learner 3.3. Develop, document and discuss <i>individualised learning plan</i> with learner 3.4. Access, read and interpret documentation outlining the OHS responsibilities of the various parties in the learning environment 3.5. Monitor supervisory arrangements appropriate to learner's levels of knowledge, skill and experience to provide support and encouragement and ensure learner's health and safety
4. Implement work-based learning pathway	4.1. Sequence introduction of workplace tasks, activities and processes to reflect the agreed work-based learning pathway 4.2. Explain objectives of work-based learning and the processes involved to learner 4.3. Encourage learner to take responsibility for learning and to self-reflect 4.4. Develop techniques that facilitate learner's transfer of skills and knowledge
5. Maintain and develop the learning/facilitation	5.1. Prepare for each session 5.2. Structure learning activities to support and reinforce new learning, build on strengths, and identify areas

ELEMENT	PERFORMANCE CRITERIA
relationship	<p>for further development</p> <p>5.3. Observe learner cues and change approaches where necessary to maintain momentum</p> <p>5.4. Practise <i>ethical behaviour</i> at all times</p> <p>5.5. Monitor effectiveness of the learning/facilitation relationship through regular meetings between the parties</p>
6. Close and evaluate the learning/facilitation relationship	<p>6.1. Carry out the closure smoothly, using appropriate interpersonal and communication skills</p> <p>6.2. Seek feedback from learner on the outcomes achieved and value of the relationship</p> <p>6.3. Evaluate and document process, including <i>impact, self evaluation and reflection</i>, and file according to legal and organisational requirements</p>
7. Monitor and review the effectiveness of the work-based learning pathway	<p>7.1. Document work performance and learning achievement and keep records according to organisational requirements</p> <p>7.2. Evaluate effectiveness of the work-based pathway against the objectives, processes and techniques used</p> <p>7.3. Recommend improvements to work-based practice in light of the review process</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- oral communication and language skills to:
 - motivate the learner
 - transfer skills and knowledge
- interpersonal skills to maintain appropriate relationships
- observation skills to monitor individual progress
- literacy skills to:
 - read and interpret organisational documents, legal documents and contracts
 - complete and maintain documentation
- organisational skills to provide guidance and feedback to individuals
- communication skills, including:
 - using effective verbal and non-verbal language
 - using critical listening and questioning techniques
 - giving constructive and supportive feedback
 - assisting learners to paraphrase advice or instructions back to the trainer/facilitator
 - providing clear and concrete options and advice
 - using appropriate industry/profession terminology and language
 - ensuring language, literacy and numeracy used is appropriate to learners

Required knowledge

- systems, processes and practices within the organisation where work-based learning is taking place
- operational demands of the work and impact of changes on work roles
- organisational work culture, including industrial relations environment
- systems for identifying skill needs
- introductory knowledge of different learning styles and how to encourage learning in each, for example:
 - visual learners
 - audio learners
 - kinaesthetic learners
 - theoretical learners
- relevant policy, legislation, codes of practice and national standards that may affect training and assessment in the vocational education and training sector
- OHS relating to the work role, including:
 - hazards relating to the industry and specific workplace

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• reporting requirements for hazards and incidents• specific procedures for work tasks• safe use and maintenance of relevant equipment• emergency procedures• sources of OHS information |
|--|

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must address the scope of this unit and reflect all components of the unit. Arrange of appropriate assessment methods and evidence-gathering techniques must be used to determine competency. A judgement of competency should only be made when the assessor is confident that the required outcomes of the unit have been achieved and that consistent performance has been demonstrated.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare and facilitate work-based learning • provide evidence of a minimum of two examples of developing work-based learning pathways, that include: <ul style="list-style-type: none"> • identifying needs for learning • analysing work practices, work environment and work activities • organising and allocating work in a way that reflects learning needs and provides effective learning opportunities through work processes • provide a minimum of two examples of a learning facilitation relationship being conducted: <ul style="list-style-type: none"> • with different individuals • demonstrating communication skills and flexibility • demonstrating one or more of the processes or techniques identified.
Context of and specific resources for assessment	<p>Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.</p> <p>Assessment must ensure access to information about work activities.</p>
Method of assessment	
Guidance information for assessment	For further information about assessment of this and other TAE units, refer to relevant implementation guidance published on the IBSA website (www.ibsa.org.au).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>OHS implications</i> may include:</p>	<ul style="list-style-type: none"> • OHS obligations • workplace OHS policies and procedures • ensuring work practices, routines and proposed changes do not pose a risk to learners and others.
<p><i>Contractual requirements</i> may include:</p>	<ul style="list-style-type: none"> • training plans under apprenticeships/traineeships • requirements of government-funded training programs, such as Workplace English Language and Literacy (WELL).
<p><i>Work-based learning pathway</i> may include:</p>	<ul style="list-style-type: none"> • identifying specific goals for work-based learning • identifying job tasks or activities to be included in learning process • appropriate sequencing of job tasks/activities to reflect learner incremental development • direct guidance and modelling from experienced co-workers and experts • opportunities for practice.
<p><i>Individualised learning plan</i> may include:</p>	<ul style="list-style-type: none"> • information about individual's learning style, learner characteristics, and the context for learning • clear boundaries and expectations of the learning/facilitation relationship • documented equity or additional support needs for the learner • performance benchmarks to be achieved • activities and processes which together will achieve the benchmarks.
<p><i>Ethical behaviour</i> includes:</p>	<ul style="list-style-type: none"> • trust • integrity • privacy and confidentiality of the session • following organisational policies • knowing own limitations • having a range of other intervention referrals ready when needed • honesty

RANGE STATEMENT	
	<ul style="list-style-type: none"> • fairness to others.
Impact may be:	<ul style="list-style-type: none"> • successful achievement, rate of achievement, or lack of achievement of identified goals • achievement of other outcomes as a result of the relationship • development of new goals • new or increased motivation to learn • greater capacity to learn • increase in learner's self-confidence.
Self-evaluation and reflection may include:	<ul style="list-style-type: none"> • asking critical questions about: <ul style="list-style-type: none"> • own ability • what worked or didn't work • how the relationship building process could be improved • reviewing records and journals on sessions and critically evaluating own performance • reviewing feedback from learner and identifying critical aspects and areas for improvement.

Unit Sector(s)

Unit sector	Delivery and facilitation
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

TLIA2043A Consolidate mail

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to consolidate mail in accordance with workplace requirements, including carrying out required preparations, consolidating mail, and completing the consolidation operations. The process includes the initial identification and separation of mail prior to movement to the despatch dock. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the regulations and workplace requirements pertaining to the processing of mail and parcels.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures and regulatory requirements to consolidation of mail as part of work activities in the postal and allied industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for consolidation of mail	1.1 Individual and work team priorities and responsibilities are identified and confirmed 1.2 All OH&S and environment protection procedures and requirements for the workplace are identified, accessed and applied 1.3 Mail to be consolidated is identified and accessed
2 Consolidate mail	2.1 Internal operating procedures and standards are applied to the consolidation of mail 2.2 Mail is consolidated accurately and correctly in compliance with workplace requirements 2.3 Mail is handled safely to minimise risk of injury to people and damage to mail 2.4 Mail to be consolidated is placed into mail containers for movement to next process point
3 Complete consolidation of mail	3.1 Mail containers are sealed and labelled accurately and correctly in accordance with workplace procedures 3.2 Information required to complete records of mail processed is provided and recorded 3.3 Mail containers are transferred to designated storage area to await movement to next processing point using appropriate shifting equipment 3.4 Excess equipment is removed from work area and stored appropriately

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to mail operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the consolidation of mail
- Focus of operation of work systems, equipment, management and site operating systems for the consolidation of mail
- Problems that may occur when consolidating mail and appropriate action that can be taken to resolve or avoid the problems

REQUIRED KNOWLEDGE AND SKILLS

- Requirements of mail consolidation systems, operations and relevant equipment
- Safety and security hazards that may occur during the consolidation of mail and ways of controlling the risks involved
- Relevant personal protective equipment and procedures for its use
- Site layout

Required skills:

- Communicate effectively with others when consolidating mail
- Read and interpret instructions, procedures and labels relevant to the consolidation of mail
- Complete documentation related to the consolidation of mail
- Work collaboratively with others when consolidating mail
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when consolidating mail in accordance with regulatory requirements and workplace procedures
- Plan own work including predicting consequences and identifying improvements
- Implement contingency plans for unplanned events that may occur when consolidating mail
- Interpret and apply relevant agreements, codes of practice or other legislative requirements
- Apply safety and security precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to mail or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Identify, select and use relevant equipment, processes and procedures when consolidating mail

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment

EVIDENCE GUIDE

guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

RANGE STATEMENT

- Work may be conducted:
- in a range of work environments
 - by day or night
- Workplaces may comprise:
- large, medium or small worksites
- Facilities may be:
- within an airport environment
- Customers may be:
- external (including international) or internal
- Hazards may include:
- vehicular traffic and pedestrians
 - dust and vapours
 - hazardous or dangerous materials
 - humidity, air temperature
 - lighting conditions
 - machinery/equipment moving parts
 - noise
 - insects
- Weighing devices may be:
- mechanical
 - automated
 - weighbridge
- Work priorities may be communicated through:
- briefings
 - noticeboards
 - announcements
- Equipment may include:
- forklift
 - BT lifting equipment
 - kingfishers
 - plastic and cardboard trays
 - bags
 - flute trays
 - bins
 - pallet jacks
 - stillages
 - unit load device (ULD)
 - wheeled unit load device (WULD)
 - strapping machine
 - TMS (Tray Management System)
 - scanners
 - label printers
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios

RANGE STATEMENT

- protective clothing
 - high visibility clothing
- Communication in the work area may include:
- phone
 - fax
 - email
 - electronic data transfer (EDI)
 - RF systems
 - radio
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Information/documents may include:
- workplace policies, operating procedures and practices
 - Management Operating System (MOS)
 - Management Information System (MIS)
 - manifests, consignment notes, bar codes, mail and container identification
 - mail identification numbers, codes and labels
 - machine/equipment operations manuals
 - air and surface movement schedules
 - international aviation codes (IATA)
 - quality assurance procedures
 - induction documentation
 - competency standards and training materials
 - job specifications and procedures
 - award, enterprise bargaining agreement or other industrial arrangements
 - manufacturers specifications
 - codes of practice, including national standards for manual handling and the industry safety code
 - supplier and or/client instructions
 - HAZCHEM chart/material safety data sheets
 - safety observation feedback program
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations pertaining to mail operations
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
 - relevant state/territory OH&S and environmental

RANGE STATEMENT

- protection legislation
- workplace relations regulations
 - workers compensation regulations
 - equal opportunity, equal employment opportunity and affirmative action legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2041A Manually sort mail and parcels

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to manually sort mail and parcels in accordance with workplace requirements, including carrying out required preparations of the work area, manually sorting mail and parcels, and finalising the required sorting processes. The sorting processes include accurately and efficiently organising mail and parcels into groups for further processing or distribution and containerising processed mail and parcels ready for transfer to the next processing or distribution point. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the regulations and workplace requirements pertaining to the processing of mail and parcels.

Work is normally performed under general supervision, usually in a team or outstation environment. It involves the application of workplace procedures and regulatory requirements to the manual sorting of mail and parcels as part of work activities in the postal and allied industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to sort mail and parcels manually	1.1 Individual and work team priorities and responsibilities are identified and confirmed 1.2 All OH&S and environment protection procedures and requirements for the workplace are identified, accessed and applied 1.3 The availability of mail and parcels to be processed is identified and confirmed 1.4 Mail and parcels to be processed are transferred to processing point 1.5 Labels for identifying the destination of mail are created and affixed to trays
2 Sort mail and parcels manually	2.1 Internal operating procedures and standards are applied to the manual processing of parcels and mail 2.2 Mail and parcels are inspected to ensure that all criteria have been met 2.3 Mail and parcels are sorted accurately and correctly in compliance with priority for processing and manual sorting procedures 2.4 Mail and parcels are handled safely to minimise risk of injury to people and damage to mail and parcels 2.5 Mail and parcels that are damaged, underpaid, incorrectly classified, or are non-conforming items are identified, separated and re-processed in accordance with workplace procedures 2.6 Legal requirements and workplace policies and procedures in relation to the security of mail and parcels are followed
3 Complete process for manually sorting mail and parcels	3.1 Mail and parcel sorting frames/bag racks are cleared down, and mail and parcel containers/bags are sealed and labelled in accordance with workplace procedures 3.2 Mail and parcels are transferred to next processing or distribution point using appropriate shifting equipment and labels scanned as required 3.3 Information required to complete records of mail and parcels processed is provided and recorded 3.4 Excess equipment is removed and work area is prepared for next activity/shift

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to mail operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the manual sorting of mail and parcels
- Focus of operation of work systems, equipment, management and site operating systems for the manual sorting of mail and parcels
- Problems that may occur when manually sorting mail and parcels and appropriate action that can be taken to resolve/avoid the problems
- Requirements of mail sorting systems, operations and relevant equipment
- Hazards that may occur during the manual sorting of mail and parcels and ways of controlling the risks involved
- Site layout
- Relevant personal protective equipment and procedures for its use

Required skills:

- Communicate effectively with others when manually sorting mail and parcels
- Read and interpret instructions, procedures and labels relevant to the manual sorting of mail and parcels
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the manual sorting of mail and parcels
- Work collaboratively with others when manually sorting mail and parcels
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may arise during the manual sorting of mail and parcels in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events that may arise during the manual sorting of mail and parcels
- Plan own work including predicting consequences and identifying improvements
- Apply security and safety precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment and systems in accordance with standard

Required skills:

- operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Identify, select and use relevant equipment, processes and procedures when manually sorting mail and parcels

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests

EVIDENCE GUIDE

- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|--|--|
| Work may be conducted: | <ul style="list-style-type: none">• in a range of work environments• by day or night |
| Workplaces may comprise: | <ul style="list-style-type: none">• large, medium or small worksites |
| Operations may include: | <ul style="list-style-type: none">• shiftwork |
| Customers may be: | <ul style="list-style-type: none">• internal or external |
| Hazards may include: | <ul style="list-style-type: none">• vehicular traffic and pedestrians• dust and vapours• hazardous or dangerous materials• humidity, air temperature• lighting conditions• machinery/equipment moving parts• noise |
| Weighing devices may be: | <ul style="list-style-type: none">• mechanical• automated• weighbridge |
| Work priorities may be communicated through: | <ul style="list-style-type: none">• briefings• noticeboards• announcements |
| Equipment may include: | <ul style="list-style-type: none">• mail trays, tubs and bags• sorting frame/bag rack• scanners• tipping belt• knife• pallet jack/maverick |

RANGE STATEMENT

- powered lifters
 - king fishers
 - scales
 - carousel
 - Unit Load Device (ULD) and Wheeled Unit Load Device (WULD)
 - Vertical Sorting Frame (VSF) and Vertical Sorting Division (VSD)
 - ULD tipper
 - conveyor belts
 - strapping machine
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - protective clothing
 - high visibility clothing
- Communication in the work area may include:
- phone
 - fax
 - email
 - electronic data transfer (EDI)
 - RF systems
 - radio
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Information/documents may include:
- workplace policies, operating procedures and practices
 - Management Operating System (MOS)
 - Management Information System (MIS)
 - sorting system information which may include:
 - postcode book, national sort plan and state sort plan
 - post guide
 - international postcode directory
 - labels chart
 - mail identification numbers, codes and labels
 - manifests, consignment notes, bar codes, mail and container identification
 - quality assurance procedures

RANGE STATEMENT

- Applicable regulations and legislation may include:
- induction documentation
 - competency standards and training materials
 - job specifications and procedures
 - award, enterprise bargaining agreement or other industrial arrangements
 - manufacturers specifications
 - codes of practice, including national standards for manual handling and the industry safety code
 - supplier and or/client instructions
 - HAZCHEM chart/material safety data sheets
 - safety observation feedback program
 - emergency procedures
 - relevant codes and regulations pertaining to mail operations
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
 - relevant state/territory OH&S and environmental protection legislation
 - workplace relations regulations
 - workers compensation regulations
 - equal opportunity, equal employment opportunity and affirmative action legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2047A Stream mail

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to stream mail in readiness for the next stage of processing in accordance with workplace requirements, including preparing to stream mail, streaming mail in accordance with workplace procedures, and finalising all required streaming operations. The process may include opening, facing up and traying mail. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the regulations and workplace requirements pertaining to the streaming of mail and parcels.

Work is normally performed under general supervision, usually within a team environment. It involves the application of workplace procedures and regulatory requirements to the streaming of mail as part of work activities in the postal and allied industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to stream mail	<p>1.1 Individual and work team priorities and responsibilities are identified and confirmed</p> <p>1.2 All OH&S and environment protection procedures and requirements for the workplace are identified, accessed and applied</p> <p>1.3 Mail to be streamed is identified, accessed and prepared</p>
2 Stream mail	<p>2.1 Internal operating procedures and standards are applied to the streaming of mail</p> <p>2.2 Mail is categorised and streamed accurately and correctly in compliance with priority for streaming</p> <p>2.3 Mail is handled safely to minimise risk of injury to people and damage to mail</p>
3 Complete streaming of mail	<p>3.1 Mail containers are loaded onto appropriate mail movement device and labelled</p> <p>3.2 Information required to complete records of mail processed is provided and recorded</p> <p>3.3 Mail containers are transferred to next processing point using appropriate shifting equipment</p> <p>3.4 Excess equipment is removed and work area is prepared for next activity shift</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to mail operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the streaming of mail
- Focus of operation of work systems, equipment, management and site operating systems for the streaming of mail
- Problems that may occur when streaming mail and appropriate action that can be taken to resolve avoid the problems
- Requirements of mail streaming systems, operations and relevant equipment
- Hazards that may occur during the streaming of mail and ways of controlling the risks

REQUIRED KNOWLEDGE AND SKILLS

involved

- Relevant personal protective equipment and procedures for its use
- Site layout

Required skills:

- Communicate effectively with others when streaming mail
- Read and interpret instructions, procedures and labels relevant to the streaming of mail
- Complete documentation related to the streaming of mail
- Work collaboratively with others when streaming mail
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when streaming mail in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events when streaming mail
- Plan own work including predicting consequences and identifying improvements
- Interpret and apply relevant agreements, codes of practice or other legislative requirements
- Apply safety and security precautions and required action to minimise, control or eliminate hazards that may exist when streaming mail
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Identify, select and use relevant equipment, processes and procedures when streaming mail
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments

RANGE STATEMENT

- Workplaces may comprise:
 - by day or night
 - large, medium or small worksites
- Facilities may be:
 - within an airport environment
- Customers may be:
 - internal or external
- Hazards may include:
 - vehicular traffic and pedestrians
 - dust and vapours
 - hazardous or dangerous materials
 - humidity, air temperature
 - lighting conditions
 - machinery/equipment moving parts
 - noise
 - insects
- Weighing devices may be:
 - mechanical
 - automated
 - weighbridge
- Work priorities may be communicated through:
 - briefings
 - noticeboards
 - announcements
- Equipment may include:
 - streaming indicators
 - kingfishers
 - plastic and cardboard mail trays tubs receptacles
 - BT lifting equipment
 - label printer
 - opening knife
 - belts
 - trolleys
 - bins
 - unit load device (ULD)
 - wheeled unit load device (WULD)
 - stillages
 - forklifts
 - pallet jack
- Personal protective equipment may include:
 - gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - protective clothing
 - high visibility clothing

RANGE STATEMENT

Communication in the work area may include:

- phone
- fax
- email
- electronic data transfer (EDI)
- RF systems
- radio
- oral, aural or signed communications

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Information/documents may include:

- workplace policies, operating procedures and practices
- Management Operating System (MOS)
- Management Information System (MIS)
- sorting system information including:
 - postcode book, national sort plan and state sort plan
 - postal guide
 - international postcode directory
 - label charts
- manifests, consignment notes, bar codes, mail and container identification
- mail identification numbers, codes and labels
- machine equipment operations manuals
- quality assurance procedures
- induction documentation
- competency standards and training materials
- job specifications and procedures
- award, enterprise bargaining agreement or other industrial arrangements
- manufacturers specifications
- codes of practice, including national standards for manual handling and the industry safety code
- supplier and or/client instructions
- HAZCHEM chart/material safety data sheets
- safety observation feedback program
- emergency procedures
- relevant codes and regulations pertaining to mail operations
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods

Applicable regulations and legislation may include:

RANGE STATEMENT

- and hazardous substances
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations
- equal opportunity, equal employment opportunity and affirmative action legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIW3006A Operate computerised mail and parcels sorting equipment

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge to operate computerised mail and parcels sorting equipment in accordance with workplace requirements including setting up mail and parcels sorting equipment for operation, operating the equipment in accordance with workplace procedures, and completing the sorting process for mail and parcels as required. The process includes containerising processed mail and parcels for transfer to the next processing or distribution point. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the regulations and workplace requirements pertaining to the processing of mail and parcels.

Work is normally performed under general supervision, usually in a team or out-station environment.

Work involves the application of workplace procedures and regulatory requirements to the operation of computerised mail and parcels sorting equipment as part of work activities in the postal and allied industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Set up mail and parcels sorting equipment for operation	1.1 Individual and work team priorities and responsibilities are identified and confirmed 1.2 All OH&S and environment protection procedures and requirements for the relevant mail and parcels sorting equipment are identified, accessed and applied 1.3 The availability of mail and parcels to be sorted is identified and confirmed 1.4 The appropriate equipment configuration and sort plan is identified, accessed and applied 1.5 Mail and parcels to be sorted are transferred to sorting point 1.6 Labels for identifying the destination of mail are created and affixed to trays
2 Operate mail and parcels sorting equipment	2.1 Internal operating procedures and equipment operating procedures are applied 2.2 Mail and parcels are sorted accurately and correctly in compliance with priority for sorting 2.3 Mail and parcels are handled safely to minimise risk of injury to people and damage to mail and parcels and processing equipment 2.4 Mail and parcels that are incorrectly classified and non-conforming items are identified, separated and re-processed 2.5 Mail and parcels that have been sorted to their correct destination are placed in appropriate mail container for distribution
3 Complete sorting process for mail and parcels	3.1 Mail and parcels stackers/containers/bags are cleared down, sealed and labelled in accordance with workplace procedures 3.2 Mail and parcels are transferred to next sorting point using appropriate shifting equipment, and labels are scanned as required 3.3 Information required to complete records of mail and parcels processed is provided and recorded 3.4 Excess equipment is removed and work area is prepared for next activity/shift

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to mail operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the operation of computerised mail and parcels sorting equipment
- Focus of operation of work systems, equipment, management and site operating systems for the operation of computerised mail and parcels sorting equipment
- Problems that may occur when operating computerised mail and parcels sorting equipment and appropriate action that can be taken to resolve/avoid the problems
- Requirements of automated mail processing systems, operations and relevant equipment
- Hazards that may occur during the operation of computerised mail and parcels sorting equipment and ways of controlling the risks involved
- Site layout
- Relevant personal protective equipment and procedures for its use

Required skills:

- Communicate effectively with others when operating computerised mail and parcels sorting equipment
- Read and interpret instructions, procedures, information and labels relevant to the operation of computerised mail and parcels sorting equipment
- Interpret and follow operational instructions and prioritise work when operating computerised mail and parcels sorting equipment
- Interpret and apply relevant agreements, codes of practice or other legislative requirements
- Complete documentation related to the operation of computerised mail and parcels sorting equipment
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating computerised mail and parcels sorting equipment
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur operating computerised mail and parcels sorting equipment in accordance with regulatory requirements and workplace procedures
- Plan own work including predicting consequences and identifying improvements
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and

Required skills:

environments

- Work systematically with required attention to detail without injury to self or others, or damage to equipment
- Select and use required personal protective equipment
- Identify, select and use relevant equipment, processes and procedures when operating computerised mail and parcels sorting equipment

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
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Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be

EVIDENCE GUIDE

conducted through appropriate written/oral tests

- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|--|--|
| Work may be conducted: | <ul style="list-style-type: none">• in a range of work environments• by day or night |
| Workplaces may comprise: | <ul style="list-style-type: none">• large, medium or small worksites |
| Operations may include: | <ul style="list-style-type: none">• shiftwork |
| Customers may be: | <ul style="list-style-type: none">• internal or external |
| Hazards may include: | <ul style="list-style-type: none">• vehicular traffic and pedestrians• dust and vapours• hazardous or dangerous materials• humidity, air temperature• lighting conditions• machinery/equipment moving parts• noise |
| Weighing devices may be: | <ul style="list-style-type: none">• mechanical• automated• weighbridge |
| Work priorities may be communicated through: | <ul style="list-style-type: none">• briefings• noticeboards• announcements |
| Equipment may include: | <ul style="list-style-type: none">• mail trays, tubs and bags• multi-line OCR• AEG OCR• bar code sorter• flat sorting machine |

RANGE STATEMENT

- large parcels sorting machine
 - small parcels sorting machine
 - large letters sorting machine
 - flat mail OCR
 - scanners
 - tipping belt
 - pallet jack/maverick
 - powered lifters
 - kingfishers
 - scales
 - Unit Load Devices (ULDs) and Wheeled Unit Load Devices (WULDs)
 - Vertical Sorting Frame (VSF) and Vertical Sorting Divisions (VSDs)
 - ULD tipper
 - conveyor belts
 - strapping machine
 - gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - protective clothing
 - high visibility clothing
 - phone
 - fax
 - email
 - electronic data transfer (EDI)
 - RF systems
 - radio
 - oral, aural or signed communications
 - company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
 - workplace policies, operating procedures and practices
 - Management Operating System (MOS)
 - Management Information System (MIS)
 - sorting system information including:
 - postcode book, national sort plan and state sort plan
 - postal guide
- Personal protective equipment may include:
- Communication in the work area may include:
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- Information/documents may include:

RANGE STATEMENT

- international postcode directory
 - label charts
 - mail identification numbers, codes and labels
 - manifests, consignment notes, bar codes, mail and container identification
 - quality assurance procedures
 - induction documentation
 - competency standards and training materials
 - job specifications and procedures
 - award, enterprise bargaining agreement or other industrial arrangements
 - manufacturers specifications
 - codes of practice, including national standards for manual handling and the industry safety code
 - supplier and or/client instructions
 - HAZCHEM chart/MSDS
 - safety observation feedback program
 - emergency procedures
 - relevant codes and regulations pertaining to mail operations
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances,
 - relevant state/territory OH&S and environmental protection legislation
 - workplace relations regulations
 - workers compensation regulations
 - equal opportunity, equal employment opportunity and affirmative action legislation
- Applicable regulations and legislation may include:

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

W - Equipment and Systems Operations