



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# ICA11 Information and Communications Te (trunc) Header Information (version 1.0)

Release: 1.0

## CONTENTS

<b>ICA11 Information and Communications Technology Training Package.....</b>	<b>3</b>
<b>Modification History .....</b>	<b>3</b>
<b>Imprint .....</b>	<b>3</b>
<b>Training Package Details .....</b>	<b>4</b>
<b>Preliminary Information .....</b>	<b>4</b>
<b>Overview.....</b>	<b>113</b>
<b>Qualifications Framework.....</b>	<b>123</b>
<b>Employability Skills.....</b>	<b>131</b>
<b>Assessment Guidelines.....</b>	<b>136</b>
<b>Competency Standards.....</b>	<b>167</b>
<b>Appendices .....</b>	<b>173</b>

## ICA11 Information and Communications Technology Training Package

### Modification History

Version	Release Date	Comments
1	July 2011	Primary release, replacing ICA05 Information and Communications Training Package

### Imprint

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### Training Package Details

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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 1.0 – check whether this is the latest version by going to the National Training Information Service ([www.ntis.gov.au](http://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 Package's national code (which remains the same during its period of endorsement).

### **Explanation of the review date**

The review date (shown on the title page and in the footer 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.

### **Version modification history**

The version details of this endorsed Training Package are in the table below. The latest information is at the top of the table.

<b>Version</b>	<b>Release Date</b>	<b>Comments</b>
1.0	July 2011	Primary release, replacing ICA05 Information and Communications Training Package.

## **History**

ICA11 Information and Communications Technology Training Package is a revision of ICA05 Information and Communications Training Package, which was developed by IBSA in November 2005. ICA11 reflects new and revised qualifications and units of competency, as well as the removal of prerequisite units of competency.

The major revisions of this Training Package have been:

- ICA05 v3.0 September 2009 - Addition of two new qualifications and seventeen new units and other minor changes
- ICA05 v2.0 September 2007 - Addition of employability skills and other minor changes
- ICA05 v1.0 November 2005 - Primary release, fully revised replacement for ICA99
- ICA99 - May 1999 - Primary release of initial Training Package.
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### Summary of AQF qualifications in ICA11 Information and Communications Technology Training Package

Code	Title
ICA10111	Certificate I in Information, Digital Media and Technology
ICA20111	Certificate II in Information, Digital Media and Technology
ICA30111	Certificate III in Information, Digital Media and Technology
ICA40111	Certificate IV in Information Technology
ICA40211	Certificate IV in Information Technology Support
ICA40311	Certificate IV in Web-Based Technologies
ICA40411	Certificate IV in Information Technology Networking
ICA40511	Certificate IV in Programming
ICA40611	Certificate IV in Information Technology Testing
ICA40711	Certificate IV in Systems Analysis and Design
ICA40811	Certificate IV in Digital Media Technologies
ICA40911	Certificate IV in Digital and Interactive Games
ICA41011	Certificate IV in Computer Systems Technology
ICA50111	Diploma of Information Technology
ICA50211	Diploma of Digital and Interactive Games
ICA50311	Diploma of Information Technology Systems Administration
ICA50411	Diploma of Information Technology Networking
ICA50511	Diploma of Database Design and Development
ICA50611	Diploma of Website Development

<b>Code</b>	<b>Title</b>
ICA50711	Diploma of Software Development
ICA50811	Diploma of Systems Analysis and Design
ICA50911	Diploma of Digital Media Technologies
ICA60111	Advanced Diploma of Information Technology
ICA60211	Advanced Diploma of Network Security
ICA60311	Advanced Diploma of Information Technology Business Analysis
ICA60411	Advanced Diploma of Information Technology Project Management
ICA60511	Advanced Diploma of Computer Systems Technology
ICA70111	Vocational Graduate Certificate in Information Technology and Strategic Management
ICA70211	Vocational Graduate Certificate in Information Technology Sustainability

### **Qualifications in this Training Package**

Packaging rules for qualifications are clear and consistent and allow a logical progression of skills development between AQF levels. The packaging allows for multiple entry points and progression pathways enabling progression from AQF I through to Advanced Diploma and through to Vocational Graduate Certificate level.

Twenty one of the qualifications are updates from the previous ICA05 Training Package, with each of these qualifications being reviewed for technical currency and restructured to meet the current needs of industry. Seven new qualifications have been developed and one qualification has been upgraded from the Diploma level to the Advanced Diploma level. The qualifications in these categories are listed below:

### **Revised qualifications**

- ICA10111 Certificate I in Information, Digital Media and Technology
- ICA20111 Certificate II in Information, Digital Media and Technology
- ICA30111 Certificate III in Information, Digital Media and Technology
- ICA40111 Certificate IV in Information Technology
- ICA40211 Certificate IV in Information Technology Support
- ICA40311 Certificate IV in Web-Based Technologies
- ICA40411 Certificate IV in Information Technology Networking
- ICA40511 Certificate IV in Programming
- ICA40611 Certificate IV in Information Technology Testing
- ICA40711 Certificate IV in Systems Analysis and Design
- ICA40811 Certificate IV in Digital Media Technologies
- ICA50111 Diploma of Information Technology
- ICA50311 Diploma of Information Technology Systems Administration
- ICA50411 Diploma of Information Technology Networking
- ICA50511 Diploma of Database Design and Development
- ICA50611 Diploma of Website Development
- ICA50711 Diploma of Software Development
- ICA50811 Diploma of Systems Analysis and Design
- ICA50911 Diploma of Digital Media Technologies
- ICA60111 Advanced Diploma of Information Technology
- ICA60211 Advanced Diploma of Network Security
- ICA60411 Advanced Diploma of Information Technology Project Management

### **New qualifications**

- ICA40911 Certificate IV in Digital and Interactive Games
- ICA41011 Certificate IV in Computer Systems Technology
- ICA50211 Diploma of Digital and Interactive Games
- ICA60311 Advanced Diploma of Information Technology Business Analysis
- ICA60511 Advanced Diploma of Computer Systems Technology
- ICA70111 Vocational Graduate Certificate in Information Technology and Strategic Management
- ICA70211 Vocational Graduate Certificate in Information Technology Sustainability

There is an articulation pathway with a possible Year 12 entry requirement:

- ICA41011 Certificate IV in Computer Systems Technology
- ICA60511 Advanced Diploma of Computer Systems Technology.

The judicious packaging of core and elective units represents great flexibility for participants to cross over from stream to stream with minimal disruptions. This has been possible by minimising the number of core units and allowing greater choice of elective units.



Following the Federal Government announcement on the inclusion of sustainability in all qualifications for 2010, industry feedback was for the inclusion of sustainability in the core of the majority of qualifications and to be available as an elective in the remainder of the qualifications.

The importation of units from Training Packages provides clear support to the information and communications technology qualifications in the area of sustainability, project management, digital media technologies and IT convergence networks.

## Whole of Industry Qualification Information

There are 29 qualifications in the Training Package (23 in ICA05), 26 skill sets and 397 units of competency (240 in ICA05). A number of functional areas were identified based on the ICA05 Scoping Report and all ICA05 units were then classified based on those functional areas. All ICA05 units were reviewed, technically updated and incorporated into the relevant qualifications within the Training Package. Where no ICA05 unit or imported unit was available, a new unit was developed. The units were classified into the following functional areas:

A total of 397 units, 186 of which are new, cover the following functional areas:

Function area	Code	Number
Database	DBS	15
Digital media technologies	DMT	4
Game development	GAM	49
General ICT	ICT	85
Networking	NWK	63
IT project management	PMG	11
Programming and software development	PRG	51
Systems administration and support	SAS	58
Systems analysis and design	SAD	14
Sustainability	SUS	3
Web	WEB	44
<b>Total</b>		<b>397</b>

## Summary of Skill Sets in ICA11 Information and Communications Technology Training Package

- Application Development Specialist Skill Set
- Basic Application Development Programmer Skill Set
- Basic Computer Hardware and System Troubleshooting Skill Set
- Basic Web Development Specialist Skill Set
- Certified IT Network Enterprise, Security or Server Administrator Skill Set
- Certified Network Associate Technology Specialist Skill Set
- Certified Network Professional Specialist Skill Set
- Certified Network Professional Specialist – Voice Skill Set
- Certified Network Professional Specialist – Wireless Skill Set
- Certified Networking Technician Skill Set
- Certified Security and Architect Specialist Skill Set
- Certified Technician or Technology Specialist - Infrastructure Configuration Skill Set
- Certified Technology Specialist - Graphical User Interfaces Skill Set
- Certified Web Design Specialist Skill Set
- Computing and Application Fundamentals Skill Set
- Computing Fundamentals Skill Set
- Digital Literacy Skill Set
- Digital Literacy - eCitizen Skill Set
- Hardware Technician Skill Set
- Internetworking Systems Coordinator/Administrator Skill Set
- Rich Interactive Content Specialist Skill Set
- System and Hardware Plus Technician Skill Set
- System and Network Plus Technician Skill Set
- Virtualisation Specialist Skill Set
- Visual Communications Specialist Skill Set
- Website Administration Specialist Skill Set

Skill sets are designed to be available to industry to train participants in a particular skill set. They contain units of competency that will be awarded with a Statement of Attainment and are able to be counted towards a qualification. Where possible, Skill Sets are aligned to a range of vendor training programs that are used as a basis for industry certifications. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.

## Summary of Units of Competency in ICA11 Information and Communications Technology Training Package and their Pre-Requisite Requirements

Unit code	Unit title
ICADBS401A	Identify physical database requirements
ICADBS402A	Complete database backup and restore
ICADBS403A	Create basic databases

<b>Unit code</b>	<b>Unit title</b>
ICADBS404A	Identify and resolve common database performance problems
ICADBS407A	Monitor physical database implementation
ICADBS408A	Link an RFID system to a database
ICADBS409A	Monitor and administer a database
ICADBS412A	Build a database
ICADBS501A	Monitor and improve knowledge management system
ICADBS502A	Design a database
ICADBS503A	Create a data warehouse
ICADBS504A	Integrate database with a website
ICADBS601A	Build a data warehouse
ICADBS602A	Develop a knowledge management strategy
ICADBS603A	Determine suitability of database functionality and scalability
ICADMT401A	Create visual design components for digital media
ICADMT402A	Produce interactive animation
ICADMT403A	Produce and edit digital images
ICADMT501A	Incorporate and edit digital video
ICAGAM301A	Apply simple modelling techniques
ICAGAM302A	Design and apply simple textures to digital art
ICAGAM303A	Review and apply the principles of animation
ICAGAM401A	Produce an interactive game
ICAGAM402A	Identify and apply principles of games design and game playing
ICAGAM403A	Create design documents for interactive games
ICAGAM404A	Apply artificial intelligence in game development
ICAGAM405A	Write story and content for digital games

<b>Unit code</b>	<b>Unit title</b>
ICAGAM406A	Create visual design components for interactive games
ICAGAM407A	Write scripts for interactive games
ICAGAM408A	Use 3-D animation interface and toolsets
ICAGAM409A	Create 3-D characters for interactive games
ICAGAM410A	Develop 3-D components for interactive games
ICAGAM412A	Design interactive media
ICAGAM413A	Design and create 3-D digital models
ICAGAM414A	Create audio for digital games
ICAGAM415A	Develop simple environments for 3-D games
ICAGAM416A	Prepare and complete image rendering processes
ICAGAM417A	Apply digital effects to interactive products
ICAGAM418A	Use simple modelling for animation
ICAGAM419A	Build a database to support a computer game
ICAGAM501A	Create design concepts for digital games and 3-D media
ICAGAM503A	Create a complex 3-D interactive computer game
ICAGAM504A	Manage interactive media production
ICAGAM506A	Create complex code for mobile game devices
ICAGAM507A	Develop intermediate 3-D software for games and interactive media
ICAGAM508A	Develop complex 3-D software for games and interactive media
ICAGAM509A	Design interactive 3-D applications for scientific and mathematical modelling
ICAGAM510A	Prepare games for different platforms and delivery modes
ICAGAM511A	Manage testing of games and interactive media
ICAGAM512A	Create and implement designs for a 3-D games environment

<b>Unit code</b>	<b>Unit title</b>
ICAGAM514A	Design and create models for a 3-D and digital effects environment
ICAGAM515A	Design and create advanced particles, fluids and bodies for 3-D digital effects
ICAGAM516A	Animate a 3-D character for digital games
ICAGAM517A	Produce a digital animation sequence
ICAGAM518A	Animate physical attributes of models and elements
ICAGAM519A	Manage technical art and rigging in 3-D animation
ICAGAM520A	Create and combine 3-D digital games and components
ICAGAM521A	Create interactive 3-D environments for digital games
ICAGAM522A	Complete digital editing for the 3-D and digital effects environment
ICAGAM523A	Collaborate in the design of 3-D game levels and environments
ICAGAM524A	Integrate multiple data sources into interactive 3-D environments
ICAGAM525A	Apply digital texturing for the 3-D environment in digital games
ICAGAM526A	Create complex 3-D characters for games
ICAGAM527A	Integrate database with online game
ICAGAM528A	Create games for mobile devices
ICAGAM529A	Analyse business opportunities in the digital games environment
ICAGAM530A	Develop and implement physics in a 3-D digital game
ICAGAM531A	Complete compositing to create elements for the 3-D and digital effects environment
ICAICT101A	Operate a personal computer
ICAICT102A	Operate word-processing applications
ICAICT103A	Use, communicate and search securely on the internet
ICAICT104A	Use digital devices
ICAICT105A	Operate spreadsheet applications

<b>Unit code</b>	<b>Unit title</b>
ICAICT106A	Operate presentation packages
ICAICT107A	Use personal productivity tools
ICAICT108A	Use digital literacy skills to access the internet
ICAICT201A	Use computer operating systems and hardware
ICAICT202A	Work and communicate effectively in an IT environment
ICAICT203A	Operate application software packages
ICAICT204A	Operate a digital media technology package
ICAICT205A	Design basic organisational documents using computing packages
ICAICT206A	Install software applications
ICAICT207A	Integrate commercial computing packages
ICAICT208A	Operate accounting applications
ICAICT209A	Interact with ICT clients
ICAICT210A	Operate database applications
ICAICT211A	Identify and use basic current industry-specific technologies
ICAICT212A	Incorporate Indigenous needs and perspectives into IT environment
ICAICT301A	Create user documentation
ICAICT302A	Install and optimise operating system software
ICAICT303A	Connect internal hardware components
ICAICT304A	Implement system software changes
ICAICT305A	Identify and use current industry-specific technologies
ICAICT306A	Migrate to new technology
ICAICT307A	Customise packaged software applications for clients
ICAICT308A	Use advanced features of computer applications
ICAICT401A	Determine and confirm client business requirements

<b>Unit code</b>	<b>Unit title</b>
ICAICT402A	Determine project specifications and secure client agreement
ICAICT403A	Apply software development methodologies
ICAICT404A	Use online learning tools
ICAICT405A	Develop detailed technical design
ICAICT406A	Build a graphical user interface
ICAICT407A	Maintain website information standards
ICAICT408A	Create technical documentation
ICAICT409A	Develop macros and templates for clients using standard products
ICAICT410A	Conduct post-implementation IT system reviews
ICAICT411A	Select and employ software and hardware testing tools
ICAICT412A	Coordinate and maintain IT work teams
ICAICT413A	Relate to clients on a business level
ICAICT415A	Provide one-to-one instruction
ICAICT416A	Contribute to the development of strategic plans
ICAICT417A	Identify, evaluate and apply current industry-specific technologies to meet industry standards
ICAICT418A	Contribute to copyright, ethics and privacy in an IT environment
ICAICT419A	Work effectively in the digital media industry
ICAICT420A	Develop client user interface
ICAICT421A	Connect, maintain and configure hardware components
ICAICT422A	Participate in IT services
ICAICT501A	Research and review hardware technology options for organisations
ICAICT502A	Develop detailed component specifications from project specifications
ICAICT503A	Validate quality and completeness of system design specifications

<b>Unit code</b>	<b>Unit title</b>
ICAICT504A	Confirm transition strategy for a new system
ICAICT505A	Determine acceptable developers for projects
ICAICT506A	Implement process re-engineering strategies
ICAICT507A	Select new technology models for business
ICAICT508A	Evaluate vendor products and equipment
ICAICT509A	Gather data to identify business requirements
ICAICT510A	Determine appropriate IT strategies and solutions
ICAICT511A	Match IT needs with the strategic direction of the enterprise
ICAICT512A	Plan process re-engineering strategies for business
ICAICT514A	Identify and manage the implementation of current industry-specific technologies
ICAICT515A	Verify client business requirements
ICAICT601A	Develop IT strategic and action plans
ICAICT602A	Develop contracts and manage contracted performance
ICAICT603A	Manage the use of appropriate development methodologies
ICAICT604A	Identify and implement business innovation
ICAICT605A	Implement a knowledge management strategy
ICAICT606A	Develop communities of practice
ICAICT608A	Interact with clients on a business level
ICAICT609A	Lead the evaluation and implementation of current industry-specific technologies
ICAICT610A	Manage copyright, ethics and privacy in an IT environment
ICAICT701A	Lead research into identifying new marketplace opportunities
ICAICT702A	Direct ICT services
ICAICT703A	Endorse business plan components for a new initiative



<b>Unit code</b>	<b>Unit title</b>
ICAICT704A	Direct ICT in a supply chain
ICAICT705A	Direct ICT procurement
ICAICT706A	Direct outsourced ICT services
ICAICT707A	Direct research and business response to new ICT technology
ICAICT708A	Direct the development of a knowledge management strategy for a business
ICAICT709A	Facilitate business analysis
ICAICT710A	Synchronise IT projects
ICAICT711A	Manage an information architecture project
ICAICT712A	Develop a business intelligence framework
ICAICT713A	Manage IT services
ICANWK301A	Provide network systems administration
ICANWK302A	Determine and action network problems
ICANWK303A	Configure and administer a network operating system
ICANWK304A	Administer network peripherals
ICANWK305A	Install and manage network protocols
ICANWK401A	Install and manage a server
ICANWK402A	Install and configure virtual machines for sustainable ICT
ICANWK403A	Manage network and data integrity
ICANWK404A	Install, operate and troubleshoot a small enterprise branch network
ICANWK405A	Build a small wireless local area network
ICANWK406A	Install, configure and test network security
ICANWK407A	Install and configure client-server applications and services
ICANWK408A	Configure a desktop environment
ICANWK409A	Create scripts for networking

<b>Unit code</b>	<b>Unit title</b>
ICANWK410A	Install hardware to a network
ICANWK411A	Deploy software to networked computers
ICANWK412A	Create network documentation
ICANWK414A	Create a common gateway interface script
ICANWK416A	Build security into virtual private networks
ICANWK417A	Build an enterprise wireless network
ICANWK418A	Implement backbone technologies in a local area network
ICANWK501A	Plan, implement and test enterprise communication solutions
ICANWK502A	Implement secure encryption technologies
ICANWK503A	Install and maintain valid authentication processes
ICANWK504A	Design and implement an integrated server solution
ICANWK505A	Design, build and test a network server
ICANWK506A	Configure, verify and troubleshoot WAN links and IP services in a medium enterprise network
ICANWK507A	Install, operate and troubleshoot medium enterprise routers
ICANWK508A	Install, operate and troubleshoot medium enterprise switches
ICANWK509A	Design and implement a security perimeter for ICT networks
ICANWK510A	Develop, implement and evaluate system and application security
ICANWK511A	Manage network security
ICANWK513A	Manage system security
ICANWK514A	Model preferred system solutions
ICANWK515A	Develop configuration management protocols
ICANWK516A	Determine best-fit topology for a local network
ICANWK517A	Determine best-fit topology for a wide area network

<b>Unit code</b>	<b>Unit title</b>
ICANWK518A	Design an enterprise wireless local area network
ICANWK519A	Design an IT security framework
ICANWK520A	Design IT system security controls
ICANWK521A	Install, configure and test a payment gateway
ICANWK522A	Build decks using wireless markup language
ICANWK524A	Install and configure network access storage devices
ICANWK525A	Configure an enterprise virtual computing environment
ICANWK526A	Install an enterprise virtual computing environment
ICANWK527A	Manage an enterprise virtual computing environment
ICANWK529A	Install and manage complex ICT networks
ICANWK531A	Configure an internet gateway
ICANWK532A	Identify and resolve network problems
ICANWK601A	Design and implement a security system
ICANWK602A	Plan, configure and test advanced server based security
ICANWK603A	Plan, configure and test advanced internetwork routing solutions
ICANWK604A	Plan and configure advanced internetwork switching solutions
ICANWK605A	Design and configure secure integrated wireless systems
ICANWK606A	Implement voice applications over secure wireless networks
ICANWK607A	Design and implement wireless network security
ICANWK608A	Configure network devices for a secure network infrastructure
ICANWK609A	Configure and manage intrusion prevention system on network sensors
ICANWK610A	Design and build integrated VoIP networks
ICANWK611A	Configure call processing network elements for secure VoIP networks
ICANWK612A	Plan and manage troubleshooting advanced integrated IP networks

<b>Unit code</b>	<b>Unit title</b>
ICANWK613A	Develop plans to manage structured troubleshooting process of enterprise networks
ICANWK614A	Manage IT security
ICAPMG401A	Support small scale IT projects
ICAPMG501A	Manage IT projects
ICAPMG601A	Establish IT project governance
ICAPMG602A	Manage IT project initiation
ICAPMG603A	Manage IT project planning
ICAPMG604A	Manage IT project delivery
ICAPMG605A	Manage IT project closure
ICAPMG606A	Manage IT project quality
ICAPMG607A	Manage and control IT project risks
ICAPMG608A	Manage IT project systems implementation
ICAPMG609A	Plan and direct complex IT projects
ICAPRG301A	Apply introductory programming techniques
ICAPRG401A	Maintain open-source code programs
ICAPRG402A	Apply query language
ICAPRG403A	Develop data-driven applications
ICAPRG404A	Test applications
ICAPRG405A	Automate processes
ICAPRG406A	Apply introductory object-oriented language skills
ICAPRG407A	Write script for software applications
ICAPRG409A	Develop mobile applications
ICAPRG410A	Build a user interface

<b>Unit code</b>	<b>Unit title</b>
ICAPRG412A	Configure and maintain databases
ICAPRG413A	Use a library or pre-existing components
ICAPRG414A	Apply introductory programming skills in another language
ICAPRG415A	Apply skills in object-oriented design
ICAPRG416A	Manage a software component reuse library
ICAPRG417A	Apply mathematical techniques for software development
ICAPRG418A	Apply intermediate programming skills in another language
ICAPRG419A	Analyse software requirements
ICAPRG425A	Use structured query language
ICAPRG426A	Prepare software development review
ICAPRG427A	Use XML effectively
ICAPRG428A	Use regular expressions in programming languages
ICAPRG501A	Apply advanced object-oriented language skills
ICAPRG502A	Manage a project using software management tools
ICAPRG503A	Debug and monitor applications
ICAPRG504A	Deploy an application to a production environment
ICAPRG505A	Build advanced user interface
ICAPRG506A	Design application architecture
ICAPRG507A	Implement security for applications
ICAPRG508A	Create mashups
ICAPRG509A	Build using rapid application development
ICAPRG510A	Maintain custom software
ICAPRG511A	Monitor and support data conversion to new IT system
ICAPRG512A	Prepare for the build phase of an IT system

<b>Unit code</b>	<b>Unit title</b>
ICAPRG513A	Coordinate the build phase of an IT system
ICAPRG514A	Prepare for software development using rapid application development
ICAPRG515A	Review developed software
ICAPRG516A	Develop integration blueprint for IT systems
ICAPRG517A	Install, test and evaluate pilot version of IT system
ICAPRG518A	Monitor the system pilot
ICAPRG520A	Validate an application design against specifications
ICAPRG523A	Apply advanced programming skills in another language
ICAPRG524A	Develop high-level object-oriented class specifications
ICAPRG525A	Build Java applets
ICAPRG526A	Maintain functionality of legacy code programs
ICAPRG527A	Apply intermediate object-oriented language skills
ICAPRG528A	Perform IT data conversion
ICAPRG529A	Apply testing techniques for software development
ICAPRG601A	Develop advanced mobile multi-touch applications
ICAPRG602A	Manage the development of technical solutions from business specifications
ICAPRG603A	Create cloud computing services
ICASAD401A	Develop and present feasibility reports
ICASAD501A	Model data objects
ICASAD502A	Model data processes
ICASAD503A	Minimise risk of new technologies to business solutions
ICASAD504A	Implement quality assurance processes for business solutions
ICASAD505A	Develop technical requirements for business solutions
ICASAD506A	Produce a feasibility report

<b>Unit code</b>	<b>Unit title</b>
ICASAD601A	Perform IT-focused enterprise analysis
ICASAD602A	Conduct knowledge audits
ICASAD603A	Plan and monitor business analysis activities in an IT environment
ICASAD604A	Manage and communicate IT solutions
ICASAD605A	Elicit IT requirements
ICASAD606A	Analyse stakeholder requirements
ICASAD607A	Manage assessment and validation of IT solutions
ICASAS201A	Maintain inventories for equipment, software and documentation
ICASAS202A	Apply problem-solving techniques to routine IT malfunctions
ICASAS203A	Connect hardware peripherals
ICASAS204A	Record client support requirements
ICASAS205A	Maintain IT system integrity
ICASAS206A	Detect and protect from spam and destructive software
ICASAS207A	Protect and secure information assets
ICASAS208A	Maintain IT equipment and consumables
ICASAS209A	Connect and use a home-based local wireless network
ICASAS301A	Run standard diagnostic tests
ICASAS303A	Care for computer hardware
ICASAS304A	Provide basic system administration
ICASAS305A	Provide IT advice to clients
ICASAS306A	Maintain equipment and software
ICASAS307A	Install, configure and secure a small office home office network
ICASAS401A	Perform unit test for a class
ICASAS402A	Implement configuration management strategies

<b>Unit code</b>	<b>Unit title</b>
ICASAS403A	Review site environmental factors prior to IT system implementation
ICASAS404A	Acquire IT system components
ICASAS405A	Identify and evaluate IT industry vendor technologies
ICASAS406A	Implement and hand over system components
ICASAS407A	Conduct pre-installation audit for software installation
ICASAS408A	Complete data transition in data migration process
ICASAS409A	Manage risks involving ICT systems and technology
ICASAS410A	Identify and resolve client IT problems
ICASAS411A	Assist with policy development for client support procedures
ICASAS412A	Action change requests
ICASAS413A	Manage resolution of system faults on a live system
ICASAS414A	Evaluate system status
ICASAS415A	Optimise IT system performance
ICASAS416A	Implement maintenance procedures
ICASAS417A	Undertake IT system capacity planning
ICASAS418A	Monitor and administer security of an IT system
ICASAS419A	Support system software
ICASAS420A	Provide first-level remote help-desk support
ICASAS421A	Support users and troubleshoot desktop applications
ICASAS422A	Scope implementation requirements
ICASAS424A	Support different operating systems
ICASAS425A	Configure and troubleshoot operating system software
ICASAS426A	Locate and troubleshoot IT equipment, system and software faults
ICASAS501A	Develop, implement and evaluate an incident response plan



<b>Unit code</b>	<b>Unit title</b>
ICASAS502A	Establish and maintain client user liaison
ICASAS503A	Perform systems tests
ICASAS504A	Develop and conduct client acceptance test
ICASAS505A	Review and update disaster recovery and contingency plans
ICASAS506A	Update IT system operational procedures
ICASAS507A	Implement and evaluate systems for regulatory and standards compliance
ICASAS509A	Provide client IT support services
ICASAS510A	Review and develop IT maintenance strategy
ICASAS511A	Prioritise IT change requests
ICASAS512A	Review and manage delivery of maintenance services
ICASAS513A	Develop detailed test plans
ICASAS514A	Perform integration tests
ICASAS515A	Manage the testing process
ICASAS516A	Perform stress and load tests on integrated platforms
ICASAS517A	Use network tools
ICASAS518A	Install and upgrade operating systems
ICASAS601A	Implement change-management processes
ICASUS701A	Plan and manage virtualisation for IT sustainability
ICASUS702A	Conduct a business case study for integrating sustainability in IT planning and design projects
ICASUS703A	Research strategies using SAP solutions for sustainable economic and environmental outcomes
ICAWEB201A	Use social media tools for collaboration and engagement
ICAWEB301A	Create a simple markup language document
ICAWEB302A	Build simple websites using commercial programs

<b>Unit code</b>	<b>Unit title</b>
ICAWEB303A	Produce digital images for the web
ICAWEB401A	Design a website to meet technical requirements
ICAWEB402A	Confirm accessibility of websites for people with special needs
ICAWEB403A	Transfer content to a website using commercial packages
ICAWEB404A	Maintain website performance
ICAWEB405A	Monitor traffic and compile website traffic reports
ICAWEB406A	Create website testing procedures
ICAWEB407A	Conduct operational acceptance tests of websites
ICAWEB408A	Ensure basic website security
ICAWEB409A	Develop cascading style sheets
ICAWEB410A	Apply web authoring tool to convert client data for websites
ICAWEB411A	Produce basic client-side script for dynamic web pages
ICAWEB412A	Produce interactive web animation
ICAWEB413A	Optimise search engines
ICAWEB414A	Design simple web page layouts
ICAWEB415A	Produce server-side script for dynamic web pages
ICAWEB416A	Customise content management system
ICAWEB417A	Integrate social web technologies
ICAWEB418A	Use development software and IT tools to build a basic website
ICAWEB419A	Develop guidelines for uploading information to a website
ICAWEB420A	Write content for web pages
ICAWEB421A	Ensure website content meets technical protocols and standards
ICAWEB422A	Ensure website access and useability
ICAWEB423A	Ensure dynamic website security

<b>Unit code</b>	<b>Unit title</b>
ICAWEB424A	Evaluate and select a web hosting service
ICAWEB425A	Apply structured query language to extract and manipulate data
ICAWEB429A	Create a markup language document to specification
ICAWEB501A	Build a dynamic website
ICAWEB502A	Create dynamic web pages
ICAWEB503A	Create web-based programs
ICAWEB504A	Build a document using eXtensible markup language
ICAWEB505A	Develop complex web page layouts
ICAWEB506A	Develop complex cascading style sheets
ICAWEB507A	Customise a complex IT content management system
ICAWEB508A	Develop website information architecture
ICAWEB509A	Use site server tools for transaction management
ICAWEB510A	Analyse information and assign meta-tags
ICAWEB511A	Implement quality assurance process for websites
ICAWEB512A	Administer business websites and servers
ICAWEB515A	Implement and use web services
ICAWEB516A	Research and apply emerging web technology trends

### **Imported Units of Competency in ICA11 Information and Communications Technology Training Package**

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
BSBCMM101A	Apply basic communication skills	BSB07 Business Services Training Package
BSBCRT401A	Articulate, present and debate ideas	BSB07 Business Services Training Package
BSBCRT501A	Originate and develop concepts	BSB07 Business Services Training Package

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
BSBEBU401A	Review and maintain a website	BSB07 Business Services Training Package
BSBEBU501A	Investigate and design e-business solutions	BSB07 Business Services Training Package
BSBINN601B	Manage organisational change	BSB07 Business Services Training Package
BSBIPR301A	Comply with organisational requirements for protection and use of intellectual property	BSB07 Business Services Training Package
BSBMGT608C	Manage innovation and continuous improvement	BSB07 Business Services Training Package
BSBOHS201A	Participate in OHS processes	BSB07 Business Services Training Package
BSBOHS302B	Participate effectively in OHS communication and consultative processes	BSB07 Business Services Training Package
BSBOHS402B	Contribute to the implementation of the OHS consultation process	BSB07 Business Services Training Package
BSBOHS509A	Ensure a safe workplace	BSB07 Business Services Training Package
BSBPMG508A	Manage project risk	BSB07 Business Services Training Package
BSBREL701A	Develop and cultivate collaborative partnerships and relationships	BSB07 Business Services Training Package
BSBSUS201A	Participate in environmentally sustainable work practices	BSB07 Business Services Training Package
BSBSUS301A	Implement and monitor environmentally sustainable work practices	BSB07 Business Services Training Package
BSBSUS501A	Develop workplace policy and procedures for sustainability	BSB07 Business Services Training Package
BSBWOR301A	Organise personal work priorities and development	BSB07 Business Services Training Package

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
BSBWOR404B	Develop work priorities	BSB07 Business Services Training Package
BSBWOR502B	Ensure team effectiveness	BSB07 Business Services Training Package
CPPSEC3009A	Prepare and present evidence in court	CPP07 Property Services Training Package
CPPSEC5003A	Assess security risk management options	CPP07 Property Services Training Package
CPPSEC5004A	Prepare security risk management plan	CPP07 Property Services Training Package
CPPSEC5005A	Implement security risk management plan	CPP07 Property Services Training Package
CPPSEC5006A	Determine strategy for the implementation of biometric technology	CPP07 Property Services Training Package
CPPSEC5007A	Assess biometric system	CPP07 Property Services Training Package
CUFANM301A	Create 2D digital animations	CUF07 Screen and Media Training Package
CUFANM302A	Create 3D digital animations	CUF07 Screen and Media Training Package
CUFANM303A	Create 3D digital models	CUF07 Screen and Media Training Package
CUFANM402A	Create digital visual effects	CUF07 Screen and Media Training Package
CUFCAM201A	Assist with a basic camera shoot	CUF07 Screen and Media Training Package
CUFCAM301A	Shoot material for screen productions	CUF07 Screen and Media Training Package
CUFDIG201A	Maintain interactive content	CUF07 Screen and Media Training Package
CUFDIG301A	Prepare video assets	CUF07 Screen and Media

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
		Training Package
CUFDIG302A	Author interactive sequences	CUF07 Screen and Media Training Package
CUFDIG303A	Produce and prepare photo images	CUF07 Screen and Media Training Package
CUFDIG304A	Create visual design components	CUF07 Screen and Media Training Package
CUFDIG401A	Author interactive media	CUF07 Screen and Media Training Package
CUFDIG502A	Design web environments	CUF07 Screen and Media Training Package
CUFDIG503A	Design e-learning resources	CUF07 Screen and Media Training Package
CUFDIG504A	Design games	CUF07 Screen and Media Training Package
CUFDIG507A	Design digital simulations	CUF07 Screen and Media Training Package
CUFPOS201A	Perform basic vision and sound editing	CUF07 Screen and Media Training Package
CUFPOS401A	Edit screen content for fast turnaround	CUF07 Screen and Media Training Package
CUFPOS402A	Manage media assets	CUF07 Screen and Media Training Package
CUFPPM404A	Create storyboards	CUF07 Screen and Media Training Package
CUFSOU204A	Perform basic sound editing	CUF07 Screen and Media Training Package
CUFSOU301A	Prepare audio assets	CUF07 Screen and Media Training Package
CUSSOU302A	Record and mix a basic music demo	CUS09 Music Training Package

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
CUSSOU403A	Perform advanced sound editing	CUS09 Music Training Package
CUSSOU502A	Produce sound recordings	CUS09 Music Training Package
CUVPHI504A	Investigate and exploit innovative imaging options	CUV03 Visual Arts, Craft and Design Training Package
CUVVSP14B	Apply techniques to produce drawings	CUV03 Visual Arts, Craft and Design Training Package
ICPMM321C	Capture a digital image	ICP10 Printing and Graphic Arts Training Package
ICPMM346C	Incorporate video into multimedia presentations	ICP10 Printing and Graphic Arts Training Package
ICTBWN3082A	Perform tests on optical communication system and components	ICT10 Integrated Telecommunications Training Package
ICTBWN3088A	Install optical fibre splitters in fibre distribution hubs	ICT10 Integrated Telecommunications Training Package
ICTBWN3090A	Install lead-in module and cable for fibre to the premises	ICT10 Integrated Telecommunications Training Package
ICTBWN3100A	Work safely with live fibre to test and commission a fibre to the x installation	ICT10 Integrated Telecommunications Training Package
ICTCBL2065A	Splice and terminate optical fibre cable for carriers and service providers	ICT10 Integrated Telecommunications Training Package
ICTCBL2136A	Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule	ICT10 Integrated Telecommunications Training Package
ICTCBL2137A	Install, maintain and modify customer premises communications cabling: ACMA Open Rule	ICT10 Integrated Telecommunications Training Package

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
ICTCBL2139A	Apply safe technical work practices for cabling registration	ICT10 Integrated Telecommunications Training Package
ICTOPN4116A	Use advanced optical test equipment	ICT10 Integrated Telecommunications Training Package
ICTOPN5119A	Perform acceptance and commissioning tests on optical network	ICT10 Integrated Telecommunications Training Package
ICTOPN5120A	Plan for an optical system upgrade and cut over	ICT10 Integrated Telecommunications Training Package
ICTOPN5122A	Test the performance of specialised optical devices	ICT10 Integrated Telecommunications Training Package
ICTOPN5123A	Analyse and integrate specialised optical devices in the network	ICT10 Integrated Telecommunications Training Package
ICTPMG8143A	Manage a telecommunications project	ICT10 Integrated Telecommunications Training Package
ICTPMG8149A	Evaluate and use telecommunications management networks	ICT10 Integrated Telecommunications Training Package
ICTSUS4183A	Install and test renewable energy system for ICT networks	ICT10 Integrated Telecommunications Training Package
ICTSUS4184A	Install and test power saving hardware	ICT10 Integrated Telecommunications Training Package
ICTSUS4185A	Install and test power management software	ICT10 Integrated Telecommunications Training Package
ICTSUS4186A	Install thin client applications for power over ethernet	ICT10 Integrated Telecommunications Training



<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
		Package
ICTSUS5187A	Implement server virtualisation for a sustainable ICT system	ICT10 Integrated Telecommunications Training Package
ICTSUS6233A	Integrate sustainability in ICT planning and design projects	ICT10 Integrated Telecommunications Training Package
ICTSUS6234A	Establish a business case for sustainability and competitive advantage in ICT projects	ICT10 Integrated Telecommunications Training Package
ICTSUS7235A	Use ICT to improve sustainability outcomes	ICT10 Integrated Telecommunications Training Package
ICTSUS7236A	Manage improvements in ICT sustainability	ICT10 Integrated Telecommunications Training Package
ICTSUS8237A	Lead applied research in ICT sustainability	ICT10 Integrated Telecommunications Training Package
ICTSUS8238A	Conduct and manage a life cycle assessment for sustainability	ICT10 Integrated Telecommunications Training Package
ICTTEN2140A	Use hand and power tools	ICT10 Integrated Telecommunications Training Package
ICTTEN4081A	Locate, diagnose and rectify faults	ICT10 Integrated Telecommunications Training Package
ICTTEN4198A	Install, configure and test an internet protocol network	ICT10 Integrated Telecommunications Training Package
ICTTEN4199A	Install, configure and test a router	ICT10 Integrated Telecommunications Training Package

<b>Unit code</b>	<b>Unit title</b>	<b>Origin</b>
ICTTEN4202A	Install and test a radio frequency identification system	ICT10 Integrated Telecommunications Training Package
ICTTEN4210A	Implement and troubleshoot enterprise routers and switches	ICT10 Integrated Telecommunications Training Package
ICTTEN4211A	Design, install and configure an internetwork	ICT10 Integrated Telecommunications Training Package
ICTTEN4213A	Configure and troubleshoot advanced network switching	ICT10 Integrated Telecommunications Training Package
ICTTEN5024A	Provide consultancy and technical support in the customer premises equipment sector	ICT10 Integrated Telecommunications Training Package
ICTTEN5168A	Design and implement an enterprise voice over internet protocol and a unified communications network	ICT10 Integrated Telecommunications Training Package
ICTTEN5200A	Install, configure and test a local area network switch	ICT10 Integrated Telecommunications Training Package
ICTTEN5201A	Install, configure and test a server	ICT10 Integrated Telecommunications Training Package
ICTTEN5203A	Dimension and design a radio frequency identification system	ICT10 Integrated Telecommunications Training Package
ICTTEN5204A	Produce technical solutions from business specifications	ICT10 Integrated Telecommunications Training Package
ICTTEN5217A	Plan a wireless mesh network	ICT10 Integrated Telecommunications Training Package
ICTTEN6172A	Design and configure an IP-MPLS network with virtual private network tunnelling	ICT10 Integrated Telecommunications Training

Unit code	Unit title	Origin
		Package
ICTTEN6206A	Produce an ICT network architecture design	ICT10 Integrated Telecommunications Training Package
ICTTEN8195A	Evaluate and apply network security	ICT10 Integrated Telecommunications Training Package

## Summary of Mapping

### Summary Mapping of ICA05 Information and Communications Technology Training Package to ICA11 Information and Communications Technology Training Package

Mapping to Previous Training Package			
Mapping of Qualifications Key: E = equivalent, N = not equivalent			
Qualification code and title ICA11	Qualification code and title ICA05	Comments	E/N
ICA10111 Certificate I in Information, Digital Media and Technology	ICA10105 Certificate I in Information Technology	ICA10105 replaced by a broader qualification incorporating an expanded digital literacy capacity and greater digital media possibilities.  Outcomes deemed equivalent. Changes in: <ul style="list-style-type: none"> <li>• core units</li> <li>• range of elective choices.</li> </ul>	E
ICA20111 Certificate II in Information, Digital Media and Technology	ICA20105 Certificate II in Information Technology	ICA20105 replaced by a broader qualification incorporating an expanded digital literacy capacity and greater digital media possibilities.  Outcomes deemed equivalent. Changes in: <ul style="list-style-type: none"> <li>• core units</li> <li>• prerequisite requirements removed</li> </ul>	E

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
		<ul style="list-style-type: none"> <li>range of elective choices.</li> </ul>	
ICA30111 Certificate III in Information, Digital Media and Technology	ICA30105 Certificate III in Information Technology	<p>ICA30105 core units updated. Outcomes deemed equivalent. Qualification made more flexible. Removal of entry requirements and prerequisites.</p> <p>Range of specialisations expanded.</p> <p>Applications, support and network specialisations remain and are equivalent.</p> <p>Web technologies and digital media technologies specialisations added.</p>	E
ICA40111 Certificate IV in Information Technology	ICA40105 Certificate IV in Information Technology (General)	<p>ICA40105 replaced and changed structurally to enable a wider range of unit uptake.</p> <p>Outcomes deemed equivalent. Removal of entry requirements and prerequisites.</p> <p>Restrictions imposed on the number of units able to be taken from each specialist group to ensure non-replication of other specialised qualifications.</p>	E
ICA40211 Certificate IV in Information Technology Support	ICA40205 Certificate IV in Information Technology (Support)	<p>ICA40205 core units updated and reduced.</p> <p>Outcomes deemed equivalent. Removal of entry requirements and prerequisites.</p> <p>Qualification made more flexible. Range of specialisations expanded.</p> <p>Database support (old database) and service desk (old help desk)</p>	E

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
		<p>remain, however units have been updated and/or added to each specialisation.</p> <p>Network communications and sustainability specialisations have been added.</p>	
ICA40311 Certificate IV in Web-Based Technologies	ICA40305 Certificate IV in Information Technology (Websites)	<p>ICA40305 core units updated and reduced.</p> <p>Outcomes deemed equivalent. Removal of entry requirements and prerequisites.</p> <p>Qualification made more flexible.</p> <p>Administration and design and development (old design) remain, however units have been updated and/or added to each specialisation.</p>	E
ICA40411 Certificate IV in Information Technology Networking	ICA40405 Certificate IV in Information Technology (Networking)	<p>ICA40405 core units updated and reduced.</p> <p>Outcomes deemed equivalent. Removal of entry requirements and prerequisites.</p> <p>Qualification made more flexible. Elective units added and technical content updated.</p>	E
ICA40511 Certificate IV in Programming	ICA40505 Certificate IV in Information Technology (Programming)	<p>ICA40505 core units updated and reduced.</p> <p>Outcomes deemed equivalent. Removal of entry requirements and prerequisites.</p> <p>Qualification made more flexible. Elective units added and technical content updated.</p>	E
ICA40611 Certificate IV	ICA40605 Certificate IV	ICA40605 core units updated and	E

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
in Information Technology Testing	in Information Technology (Testing)	reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	
ICA40711 Certificate IV in Systems Analysis and Design	ICA40705 Certificate IV in Information Technology (Systems Analysis & Design)	ICA40705 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	E
ICA40811 Certificate IV in Digital Media Technologies	ICA40805 Certificate IV in Information Technology (Multimedia)	ICA40805 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated. Range of specialisation clusters reduced from seven (with no specialisation requirements) to three, with specialisation now a requirement. Three specialisation groups: <ul style="list-style-type: none"> <li>• web development</li> <li>• programming</li> <li>• interactive media.</li> </ul>	E
ICA40911 Certificate IV in Digital and Interactive		New qualification	N/A

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
Games			
ICA41011 Certificate IV in Computer Systems Technology		New qualification	N/A
ICA50111 Diploma of Information Technology	ICA50105 Diploma of Information Technology (General)	ICA50105 updated to enable a wider range of unit uptake. Outcomes deemed equivalent. Removal of entry requirements and prerequisites.  Restrictions imposed on the number of units able to be taken from each specialist group to ensure non-replication of other specialised qualifications	E
	ICA50205 Diploma of Information Technology (Project Management)	ICA50205 deleted. Specialist area now covered by ICA60411 Advanced Diploma level. Outcomes deemed not equivalent	N
ICA50211 Diploma of Digital and Interactive Games		New qualification	N/A
ICA50311 Diploma of Information Technology Systems Administration	ICA50305 Diploma of Information Technology (Systems Administration)	ICA50305 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites.  Qualification made more flexible. Elective units added and technical content updated.	E
ICA50411 Diploma of Information Technology Networking	ICA50405 Diploma of Information Technology (Networking)	ICA50405 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements	E

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
		and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	
ICA50511 Diploma of Database Design and Development	ICA50505 Diploma of Information Technology (Database Design and Development)	ICA50505 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	E
ICA50611 Diploma of Website Development	ICA50605 Diploma of Information Technology (Website Development)	ICA50605 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	E
ICA50711 Diploma of Software Development	ICA50705 Diploma of Information Technology (Software Development)	ICA50705 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	E
ICA50811 Diploma of Systems Analysis and Design	ICA50805 Diploma of Information Technology (Systems Analysis and Design)	ICA50805 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible.	E



<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
		Elective units added and technical content updated.	
ICA50911 Diploma of Digital Media Technologies	ICA50905 Diploma of Information Technology (Multimedia)	ICA50905 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Range of specialisation clusters reduced from seven (with no specialisation requirements) to one elective group only. Elective units added and technical content updated.	E
ICA60111 Advanced Diploma of Information Technology	ICA60105 Advanced Diploma of Information Technology	ICA60105 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements and prerequisites. Qualification made more flexible. Elective units added and technical content updated. Range of specialisations reduced from four to two elective groups only (Systems or Software Process Improvement and eLearning deleted). Two specialist groups available: <ul style="list-style-type: none"> <li>• knowledge management</li> <li>• systems development.</li> </ul>	E
ICA60211 Advanced Diploma of Network Security	ICA60208 Advanced Diploma of Information Technology (Network Security)	ICA60208 core units updated and reduced. Outcomes deemed equivalent. Removal of entry requirements	E

<b>Mapping to Previous Training Package</b>			
<b>Mapping of Qualifications Key: E = equivalent, N = not equivalent</b>			
<b>Qualification code and title ICA11</b>	<b>Qualification code and title ICA05</b>	<b>Comments</b>	<b>E/N</b>
		and prerequisites. Qualification made more flexible. Elective units added and technical content updated.	
Deleted and included in ICA60211	ICA60308 Advanced Diploma of Information Technology (E-Security)	Deleted and incorporated into ICA60211 Outcomes deemed not equivalent.	N
ICA60311 Advanced Diploma of Information Technology Business Analysis	N/A	New qualification	N/A
ICA60411 Advanced Diploma of Information Technology Project Management	N/A	New qualification	N/A
ICA60511 Advanced Diploma of Computer Systems Technology	N/A	New qualification	N/A
ICA70111 Vocational Graduate Certificate in Information Technology and Strategic Management	N/A	New qualification	N/A
ICA70211 Vocational Graduate Certificate in Information Technology Sustainability	N/A	New qualification	N/A
NOTE: The equivalence of qualifications reflects a vocational outcome rather than a structural change linked to greater flexibility of the new package qualifications; and removal of entry requirements and prerequisites.			

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICADBS401A Identify physical database requirements	ICAB4060B Identify physical database requirements	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS402A Complete database backup and restore	ICAS4108B Complete database backup and recovery	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Change to element 1.	E
ICADBS403A Create basic databases		New unit	N/A
ICADBS404A Identify and resolve common database performance problems	ICAS4113C Identify and resolve common database performance problems	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS407A Monitor physical database implementation	ICAB4061B Monitor physical database implementation	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		skills and knowledge and evidence guide.	
ICADBS408A Link an RFID system to a database	ICAB4247A Link an RFID system to a database	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS409A Monitor and administer a database	ICAS4125B Monitor and administer a database	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICADBS412A Build a database	ICAB4170B Build a database	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS501A Monitor and improve knowledge management system	ICAI5216B Monitor and improve knowledge management system	Outcomes deemed equivalent. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to range statement, required skills and knowledge and evidence guide.	
ICADBS502A Design a database	ICAA5139B Design a database	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS503A Create a data warehouse	ICAB5164B Create a data warehouse	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICADBS504A Integrate database with a website	ICAB5180C Integrate database with a website	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICADBS601A Build a data warehouse		New unit	N/A
ICADBS602A Develop a knowledge management		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
strategy			
ICADBS603A Determine suitability of database functionality and scalability	ICAA5147B Determine suitability of database functionality and scalability	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E
ICADMT401A Create visual design components for digital media		New unit	N/A
ICADMT402A Produce interactive animation		New unit	N/A
ICADMT403A Produce and edit digital images		New unit	N/A
ICADMT501A Incorporate and edit digital video		New unit	N/A
ICAGAM301A Apply simple modelling techniques		New unit	N/A
ICAGAM302A Design and apply simple textures to digital art		New unit	N/A
ICAGAM303A Review and apply the principles of animation		New unit	N/A
ICAGAM401A Produce an interactive game		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAGAM402A Identify and apply principles of games design and game playing		New unit	N/A
ICAGAM403A Create design documents for interactive games		New unit	N/A
ICAGAM404A Apply artificial intelligence in game development		New unit	N/A
ICAGAM405A Write story and content for digital games		New unit	N/A
ICAGAM406A Create visual design components for interactive games		New unit	N/A
ICAGAM407A Write scripts for interactive games		New unit	N/A
ICAGAM408A Use 3-D animation interface and toolsets		New unit	N/A
ICAGAM409A Create 3-D characters for interactive games		New unit	N/A
ICAGAM410A Develop 3-D components for interactive games		New unit	N/A
ICAGAM412A Design interactive media		New unit	N/A
ICAGAM413A Design and create 3-D digital models		New unit	N/A
ICAGAM414A Create audio for digital games		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAGAM415A Develop simple environments for 3-D games		New unit	N/A
ICAGAM416A Prepare and complete image rendering processes		New unit	N/A
ICAGAM417A Apply digital effects to interactive products		New unit	N/A
ICAGAM418A Use simple modelling for animation		New unit	N/A
ICAGAM419A Build a database to support a computer game		New unit	N/A
ICAGAM501A Create design concepts for digital games and 3-D media		New unit	N/A
ICAGAM503A Create a complex 3-D interactive computer game		New unit	N/A
ICAGAM504A Manage interactive media production		New unit	N/A
ICAGAM506A Create complex code for mobile game devices		New unit	N/A
ICAGAM507A Develop intermediate 3-D software for games and interactive media		New unit	N/A
ICAGAM508A Develop complex 3-D software for games and interactive media		New unit	N/A



<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAGAM509A Design interactive 3-D applications for scientific and mathematical modelling		New unit	N/A
ICAGAM510A Prepare games for different platforms and delivery modes		New unit	N/A
ICAGAM511A Manage testing of games and interactive media		New unit	N/A
ICAGAM512A Create and implement designs for a 3-D games environment		New unit	N/A
ICAGAM514A Design and create models for a 3-D and digital effects environment		New unit	N/A
ICAGAM515A Design and create advanced particles, fluids and bodies for 3-D digital effects		New unit	N/A
ICAGAM516A Animate a 3-D character for digital games		New unit	N/A
ICAGAM517A Produce a digital animation sequence		New unit	N/A
ICAGAM518A Animate physical attributes of models and elements		New unit	N/A
ICAGAM519A Manage technical art and rigging in 3-D animation		New unit	N/A
ICAGAM520A Create and combine 3-D digital games		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
and components			
ICAGAM521A Create interactive 3-D environments for digital games		New unit	N/A
ICAGAM522A Complete digital editing for the 3-D and digital effects environment		New unit	N/A
ICAGAM523A Collaborate in the design of 3-D game levels and environments		New unit	N/A
ICAGAM524A Integrate multiple data sources into interactive 3-D environments		New unit	N/A
ICAGAM525A Apply digital texturing for the 3-D environment in digital games		New unit	N/A
ICAGAM526A Create complex 3-D characters for games		New unit	N/A
ICAGAM527A Integrate database with online game		New unit	N/A
ICAGAM528A Create games for mobile devices		New unit	N/A
ICAGAM529A Analyse business opportunities in the digital games environment		New unit	N/A
ICAGAM530A Develop and implement physics in a 3-D digital game		New unit	N/A
ICAGAM531A Complete compositing to create		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
elements for the 3-D and digital effects environment			
ICAICT101A Operate a personal computer	ICAU1128B Operate a personal computer	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT102A Operate word-processing applications	ICAU1129B Operate a word processing application	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E
ICAICT103A Use, communicate and search securely on the internet	ICAU1133B Send and retrieve information using web browsers and email  ICAS1193B Connect a workstation to the internet  ICAU1204B Locate and use relevant online information	Outcomes deemed equivalent to combined units. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E
ICAICT104A Use digital devices		New unit	N/A
ICAICT105A Operate spreadsheet applications	ICAU1130B Operate a spreadsheet application	Outcomes deemed equivalent.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to performance criteria.	
ICAICT106A Operate presentation packages	ICAU1132B Operate a presentation package	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT107A Use personal productivity tools	ICAU1215B Use personal productivity tool	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT108A Use digital literacy skills to access the internet		New unit	N/A
ICAICT201A Use computer operating systems and hardware	ICAU1128B Operate a personal computer ICAU2005B Operate computer hardware ICAU2231B Use computer operating system	Outcomes deemed equivalent to combined units. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICAICT202A Work and communicate effectively in an IT environment	ICAW2001B Work effectively in an IT environment ICAW2002B Communicate in the workplace	Outcomes deemed equivalent to combined units. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT203A Operate application software packages	ICAU2006B Operate computing packages	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT204A Operate a digital media technology package		New unit	N/A
ICAICT205A Design basic organisational documents using computing packages	ICAD2012B Design organisational documents using computing packages	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT206A Install software applications	ICAI2015B Install software applications	Outcomes deemed equivalent. Added application of unit. Changes to range	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICAICT207A Integrate commercial computing packages	ICAU2013B Integrate commercial computing packages	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT208A Operate accounting applications	ICAU1211B Operate accounting applications	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT209A Interact with ICT clients	ICAS2009B Interact with clients	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT210A Operate database applications	ICAU1131B Operate a database application	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICAICT211A Identify and use basic current industry-specific technologies		New unit	N/A
ICAICT212A Incorporate Indigenous needs and perspectives into IT environment		New unit	N/A
ICAICT301A Create user documentation	ICAD3218B Create user documentation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT302A Install and optimise operating system software	ICAI3020B Install and optimise operating system software	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT303A Connect internal hardware components	ICAI3021B Connect internal hardware components	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT304A Implement system software changes	ICAI3110C Implement system software changes	Outcomes deemed equivalent. Prerequisite unit	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAICT305A Identify and use current industry-specific technologies		New unit	N/A
ICAICT306A Migrate to new technology	ICAU3019B Migrate to new technology	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT307A Customise packaged software applications for clients	ICAU3028B Customise packaged software applications for clients	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT308A Use advanced features of computer applications	ICAU3126B Use advanced features of computer applications	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT401A Determine and	ICAA4041C Determine and	Outcomes deemed	E



<b>Mapping to Previous Training Package</b>			
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<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
confirm client business requirements	confirm client business expectations and needs	equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAICT402A Determine project specifications and secure client agreement	ICAA4047B Determine project specifications and secure client agreement	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT403A Apply software development methodologies	ICAA4233B Determine and apply appropriate development methodologies	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT404A Use online learning tools		New unit	N/A
ICAICT405A Develop detailed technical design	ICAB4059B Develop detailed technical design	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT406A Build a graphical user interface	ICAB4178B Build a graphical user interface	Outcomes deemed equivalent.	E

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<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	
ICAICT407A Maintain website information standards	ICAD4190B Maintain information standards	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT408A Create technical documentation	ICAD4217B Create technical documentation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT409A Develop macros and templates for clients using standard products	ICAB3018B Develop macros and templates for clients using standard products	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
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<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAICT410A Conduct post-implementation IT system reviews	ICAI4091B Conduct post-implementation review	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT411A Select and employ software and hardware testing tools	ICAU4205B Select and employ software and hardware tools	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT412A Coordinate and maintain IT work teams	ICAW4026B Coordinate and maintain work teams	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT413A Relate to clients on a business level	ICAW4027B Relate to clients on a business level	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAICT415A Provide one-to-one instruction	ICAS4023B Provide one-to-one instruction	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT416A Contribute to the development of strategic plans	ICAP4037B Contribute to the development of a strategy plan	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICAICT417A Identify, evaluate and apply current industry-specific technologies to meet industry standards		New unit	N/A
ICAICT418A Contribute to copyright, ethics and privacy in an IT environment	ICAW4214B Maintain ethical conduct Combined with ICAS5202B Ensure privacy for users	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICAICT419A Work effectively in the digital		New unit	N/A

<b>Mapping to Previous Training Package</b>			
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<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
media industry			
ICAICT420A Develop client user interface	ICAA4051B Develop client user interface	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT421A Connect, maintain and configure hardware components		New unit	N/A
ICAICT422A Participate in IT services		New unit	N/A
ICAICT501A Research and review hardware technology options for organisations	ICAA5035C Research and review hardware technology options for organisations	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT502A Develop detailed component specifications from project specifications	ICAA5050B Develop detailed component specifications from project specifications	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT503A Validate quality and completeness of system design specifications	ICAA5054C Validate quality and completeness of system design specifications	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICAICT504A Confirm transition strategy for a new system	ICAA5055B Confirm transition strategy	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT505A Determine acceptable developers for projects	ICAA5138B Determine acceptable developers for projects	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT506A Implement process re-engineering strategies	ICAA5143C Implement process re-engineering strategies in an organisation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT507A Select new technology models for business	ICAA5148B Select new technology models for business	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
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<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAICT508A Evaluate vendor products and equipment	ICAA5150C Evaluate vendor products and equipment	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT509A Gather data to identify business requirements	ICAA5151B Gather data to identify business requirements	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria	E
ICAICT510A Determine appropriate IT strategies and solutions	ICAP5036B Determine appropriate IT strategies and solutions	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT511A Match IT needs with the strategic direction of the enterprise	ICAP5039B Match IT needs with the strategic direction of the enterprise	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to range statement, required skills and knowledge and evidence guide.	
ICAICT512A Plan process re-engineering strategies for business	ICAP5155B Plan process re-engineering strategies for business	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT514A Identify and manage the implementation of current industry-specific technologies		New unit	N/A
ICAICT515A Verify client business requirements		New unit	N/A
ICAICT601A Develop IT strategic and action plans	ICAP6038B Develop strategic and action plans	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAICT602A Develop contracts and manage contracted performance	ICAP6040B Develop contracts and manage contracted performance	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E



<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAICT603A Manage the use of appropriate development methodologies		New unit	N/A
ICAICT604A Identify and implement business innovation		New unit	N/A
ICAICT605A Implement a knowledge management strategy		New unit	N/A
ICAICT606A Develop communities of practice		New unit	N/A
ICAICT608A Interact with clients on a business level		New unit	N/A
ICAICT609A Lead the evaluation and implementation of current industry-specific technologies		New unit	N/A
ICAICT610A Manage copyright, ethics and privacy in an IT environment		New unit	N/A
ICAICT701A Lead research into identifying new marketplace opportunities		New unit	N/A
ICAICT702A Direct ICT services		New unit	N/A
ICAICT703A Endorse business plan components for a new initiative		New unit	N/A
ICAICT704A Direct ICT in a supply chain		New unit	N/A
ICAICT705A Direct ICT		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
procurement			
ICAICT706A Direct outsourced ICT services		New unit	N/A
ICAICT707A Direct research and business response to new ICT technology		New unit	N/A
ICAICT708A Direct the development of a knowledge management strategy for a business		New unit	N/A
ICAICT709A Facilitate business analysis		New unit	N/A
ICAICT710A Synchronise IT projects		New unit	N/A
ICAICT711A Manage an information architecture project		New unit	N/A
ICAICT712A Develop a business intelligence framework		New unit	N/A
ICAICT713A Manage IT services		New unit	N/A
ICANWK301A Provide network systems administration	ICAS3032B Provide network systems administration	Outcomes deemed equivalent. Prerequisite units removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICANWK302A Determine and action network problems	ICAS3034B Determine and action network problems	Outcomes deemed equivalent. Prerequisite units removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK303A Configure and administer a network operating system	ICAS3120C Configure and administer a network operating system	Outcomes deemed equivalent. Prerequisite units removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK304A Administer network peripherals	ICAS3121B Administer network peripherals	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK305A Install and manage network protocols	ICAI3101B Install and manage network protocols	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK401A Install and	ICAI4188B Install and maintain	Outcomes deemed	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
manage a server	a server	equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICANWK402A Install and configure virtual machines for sustainable ICT		New unit	N/A
ICANWK403A Manage network and data integrity	ICAI4249A Implement and evaluate data security combined with ICAI4251A Implement and evaluate network and telecommunication security	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK404A Install, operate and troubleshoot a small enterprise branch network		New unit	N/A
ICANWK405A Build a small wireless local area network	ICAB4239C Build a small wireless local area network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK406A Install, configure and test network security	ICAS4124B Monitor and administer network security combined with ICAB4235B	Outcomes deemed equivalent. Prerequisite unit	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
	Build basic perimeter security into a network	removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICANWK407A Install and configure client-server applications and services		New unit	N/A
ICANWK408A Configure a desktop environment		New unit	N/A
ICANWK409A Create scripts for networking	ICAB4220B Create scripts for networking	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICANWK410A Install hardware to a network	ICAI4029C Install network hardware to a network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK411A Deploy software to networked computers	ICAI4030B Install software to networked computers	Outcomes deemed equivalent. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to range statement, required skills and knowledge and evidence guide.	
ICANWK412A Create network documentation		New unit	N/A
ICANWK414A Create a common gateway interface script	ICAB4163B Create a common gateway interface script	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK416A Build security into virtual private networks	ICAB4236B Build security into a virtual private network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK417A Build an enterprise wireless network	ICAB4240C Build an enterprise wireless network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to performance criteria.	E
ICANWK418A Implement backbone technologies in a local area network	ICAI5172B Implement backbone technologies in a local area network	Outcomes deemed equivalent. Added application of unit. Changes to range	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICANWK501A Plan, implement and test enterprise communication solutions		New unit	N/A
ICANWK502A Implement secure encryption technologies	ICAI5196B Implement secure encryption technologies	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICANWK503A Install and maintain valid authentication processes	ICAI5197B Install and maintain valid authentication processes	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK504A Design and implement an integrated server solution		New unit	N/A
ICANWK505A Design, build and test a network server		New unit	N/A
ICANWK506A Configure, verify and troubleshoot WAN links and IP services in a medium enterprise network		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICANWK507A Install, operate and troubleshoot medium enterprise routers		New unit	N/A
ICANWK508A Install, operate and troubleshoot medium enterprise switches		New unit	N/A
ICANWK509A Design and implement a security perimeter for ICT networks	ICAB5159C Build a security shield for a network combined with ICAB5237B Build a high performance security perimeter & ICAB5238B Build a highly secure firewall	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK510A Develop, implement and evaluate system and application security	ICAI5250A Develop, implement and evaluate system and application security	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK511A Manage network security	ICAS5123C Manage network security	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge	E



<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICANWK513A Manage system security	ICAS5118C Manage system security	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICANWK514A Model preferred system solutions	ICAA5046B Model preferred system solutions	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK515A Develop configuration management protocols	ICAA5048B Develop configuration management protocols	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICANWK516A Determine best-fit topology for a local network	ICAA5144B Determine best-fit topology for a local network	Outcomes deemed equivalent. Added application of unit. Changes to range	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICANWK517A Determine best-fit topology for a wide area network	ICAA5145B Identify best-fit topology for a wide area network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICANWK518A Design an enterprise wireless local area network	ICAA5241C Design an enterprise wireless local area network	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to Performance Criteria.	E
ICANWK519A Design an IT security framework	ICAA6052B Design an IT security framework	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK520A Design IT system security controls	ICAA6053B Design system security and controls	Outcomes deemed equivalent. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to range statement, required skills and knowledge and evidence guide.	
ICANWK521A Install, configure and test a payment gateway	ICAB5162B Install, configure and test a payment gateway	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICANWK522A Build decks using wireless markup language	ICAB5179B Build decks using wireless mark-up language	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK524A Install and configure network access storage devices		New unit	N/A
ICANWK525A Configure an enterprise virtual computing environment		New unit	N/A
ICANWK526A Install an enterprise virtual computing environment		New unit	N/A
ICANWK527A Manage an enterprise virtual computing environment		New unit	N/A
ICANWK529A Install and manage complex ICT	ICAI5098C Install and manage complex networks combined	Outcomes deemed equivalent.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
networks	with ICAI5100C Build an internet infrastructure	Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICANWK531A Configure an internet gateway	ICAS5192B Configure an internet gateway	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK532A Identify and resolve network problems	ICAS5122C Identify and resolve network problems	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICANWK601A Design and implement a security system		New unit	N/A
ICANWK602A Plan, configure and test advanced server based security		New unit	N/A
ICANWK603A Plan, configure and test advanced internetwork routing		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
solutions			
ICANWK604A Plan and configure advanced internetwork switching solutions		New unit	N/A
ICANWK605A Design and configure secure integrated wireless systems		New unit	N/A
ICANWK606A Implement voice applications over secure wireless networks		New unit	N/A
ICANWK607A Design and implement wireless network security		New unit	N/A
ICANWK608A Configure network devices for a secure network infrastructure		New unit	N/A
ICANWK609A Configure and manage intrusion prevention system on network sensors		New unit	N/A
ICANWK610A Design and build integrated VoIP networks		New unit	N/A
ICANWK611A Configure call processing network elements for secure VoIP networks		New unit	N/A
ICANWK612A Plan and manage troubleshooting advanced integrated IP networks		New unit	N/A
ICANWK613A Develop		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
plans to manage structured troubleshooting process of enterprise networks			
ICANWK614A Manage IT security	ICAS6254A Manage IT security	Outcomes deemed equivalent. Prerequisite units removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPMG401A Support small scale IT projects		New unit	N/A
ICAPMG501A Manage IT projects		New unit	N/A
ICAPMG601A Establish IT project governance		New unit	N/A
ICAPMG602A Manage IT project initiation		New unit	N/A
ICAPMG603A Manage IT project planning		New unit	N/A
ICAPMG604A Manage IT project delivery		New unit	N/A
ICAPMG605A Manage IT project closure		New unit	N/A
ICAPMG606A Manage IT project quality		New unit	N/A
ICAPMG607A Manage and control IT project risks		New unit	N/A
ICAPMG608A Manage IT		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
project systems implementation			
ICAPMG609A Plan and direct complex IT projects		New unit	N/A
ICAPRG301A Apply introductory programming techniques		New unit	N/A
ICAPRG401A Maintain open-source code programs	ICAB4232B Maintain open-source code programs	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG402A Apply query language		New unit	N/A
ICAPRG403A Develop data-driven applications		New unit	N/A
ICAPRG404A Test applications		New unit	N/A
ICAPRG405A Automate processes	ICAB4225B Automate processes	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG406A Apply introductory object-oriented language skills	ICAB4219B Apply introductory object-oriented language skills	Outcomes deemed equivalent. Prerequisite unit	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAPRG407A Write script for software applications		New unit	N/A
ICAPRG409A Develop mobile applications		New unit	N/A
ICAPRG410A Build a user interface		New unit	N/A
ICAPRG412A Configure and maintain databases		New unit	N/A
ICAPRG413A Use a library or pre-existing components	ICAB4075B Use a library or pre-existing components	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG414A Apply introductory programming skills in another language	ICAB4222B Apply introductory programming skills in another language	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance	E



<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		criteria.	
ICAPRG415A Apply skills in object-oriented design	ICAA4058B Apply skills in object-oriented design	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG416A Manage a software component reuse library	ICAB4057B Manage a reuse library	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG417A Apply mathematical techniques for software development	ICAB4224B Apply mathematical techniques for software development	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG418A Apply intermediate programming skills in another language	ICAB4229B Apply intermediate programming skills in another language	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to performance criteria.	
ICAPRG419A Analyse software requirements		New unit	N/A
ICAPRG425A Use structured query language	ICAB4136B Use structured query language to create database structures and manipulate data	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG426A Prepare software development review	ICAB4064B Prepare software development review	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG427A Use XML effectively		New unit	N/A
ICAPRG428A Use regular expressions in programming languages		New unit	N/A
ICAPRG501A Apply advanced object-oriented language skills	ICAB5226B Apply advanced object-oriented language skills	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		skills and knowledge and evidence guide. Changes to elements and performance criteria.	
ICAPRG502A Manage a project using software management tools		New unit	N/A
ICAPRG503A Debug and monitor applications		New unit	N/A
ICAPRG504A Deploy an application to a production environment		New unit	N/A
ICAPRG505A Build advanced user interface		New unit	N/A
ICAPRG506A Design application architecture		New unit	N/A
ICAPRG507A Implement security for applications		New unit	N/A
ICAPRG508A Create mashups		New unit	N/A
ICAPRG509A Build using rapid application development	ICAB5068B Build using rapid application development	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICAPRG510A Maintain custom software	ICAB5230B Maintain custom software	Outcomes deemed equivalent.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAPRG511A Monitor and support data conversion to new IT system	ICAB5063B Monitor and support data conversion	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG512A Prepare for the build phase of an IT system	ICAB5065B Prepare for the build phase	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG513A Coordinate the build phase of an IT system	ICAB5066B Coordinate the build phase	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG514A Prepare for software development using rapid application	ICAB5067B Prepare for software development using rapid application development	Outcomes deemed equivalent. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
development		Changes to range statement, required skills and knowledge and evidence guide.	
ICAPRG515A Review developed software	ICAB5071B Review developed software	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG516A Develop integration blueprint for IT systems	ICAB5072B Develop integration blueprint	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG517A Install, test and evaluate pilot version of IT system	ICAB5073B Pilot the developed system	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E
ICAPRG518A Monitor the system pilot	ICAB5074B Monitor the system pilot	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICAPRG520A Validate an application design against specifications		New unit	N/A
ICAPRG523A Apply advanced programming skills in another language	ICAB5227B Apply advanced programming skills in another language	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG524A Develop high-level object-oriented class specifications	ICAA5049B Develop high-level object-oriented class specifications	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG525A Build Java applets	ICAB5177B Build Java applets	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG526A Maintain functionality of legacy code programs	ICAB5228B Maintain functionality of legacy code programs	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAPRG527A Apply intermediate object-oriented language skills	ICAB5223B Apply intermediate object-oriented language skills	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICAPRG528A Perform IT data conversion	ICAB5062B Perform data conversion	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAPRG529A Apply testing techniques for software development		New unit	N/A
ICAPRG601A Develop advanced mobile multi-touch applications		New unit	N/A
ICAPRG602A Manage the development of technical solutions from business specifications		New unit	N/A
ICAPRG603A Create cloud		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
computing services			
ICASAD401A Develop and present feasibility reports	ICAD4043B Develop and present a feasibility report	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAD501A Model data objects	ICAA5153B Model data objects	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAD502A Model data processes	ICAA5154B Model data processes	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAD503A Minimise risk of new technologies to business solutions	ICAA5156B Review and plan to minimise risk to business solutions	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAD504A Implement quality assurance processes for business solutions	ICAA6149B Implement quality assurance processes for business solutions	Outcomes deemed equivalent. Added application of unit. Changes to range	E



<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICASAD505A Develop technical requirements for business solutions	ICAA6157B Develop technical requirements for a business solution	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICASAD506A Produce a feasibility report		New unit	N/A
ICASAD601A Perform IT-focused enterprise analysis		New unit	N/A
ICASAD602A Conduct knowledge audits		New unit	N/A
ICASAD603A Plan and monitor business analysis activities in an IT environment		New unit	N/A
ICASAD604A Manage and communicate IT solutions		New unit	N/A
ICASAD605A Elicit IT requirements		New unit	N/A
ICASAD606A Analyse stakeholder requirements		New unit	N/A
ICASAD607A Manage assessment and validation of IT solutions		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICASAS201A Maintain inventories for equipment, software and documentation	ICAS2008B Maintain inventories for equipment, software and documentation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS202A Apply problem-solving techniques to routine IT malfunctions	ICAS2010B Apply problem solving techniques to routine malfunctions	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS203A Connect hardware peripherals	ICAS2014B Connect hardware peripherals	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS204A Record client support requirements	ICAS2016B Record client support requirements	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS205A Maintain IT system integrity	ICAS2017B Maintain system integrity	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		skills and knowledge and evidence guide.	
ICASAS206A Detect and protect from spam and destructive software	ICAS2243B Detect and protect from spam and destructive software	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS207A Protect and secure information assets	ICAS2248A Protect and secure information assets	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS208A Maintain IT equipment and consumables	ICAU2007B Maintain equipment and consumables	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS209A Connect and use a home-based local wireless network		New unit	N/A
ICASAS301A Run standard diagnostic tests	ICAT3025B Run standard diagnostic tests	Outcomes deemed equivalent. Added application of unit. Changes to range	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICASAS303A Care for computer hardware	ICAS3234B Care for computer hardware	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS304A Provide basic system administration	ICAS3024B Provide basic system administration	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS305A Provide IT advice to clients	ICAS3031B Provide advice to clients	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS306A Maintain equipment and software	ICAS3115B Maintain equipment and software in working order	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		performance criteria.	
ICASAS307A Install, configure and secure a small office home office network		New unit	N/A
ICASAS401A Perform unit test for a class	ICAT4242B Perform unit test for a class	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICASAS402A Implement configuration management strategies	ICAB4076B Implement configuration management	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS403A Review site environmental factors prior to IT system implementation	ICAI5085B Review site in preparation for implementation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS404A Acquire IT system components	ICAI5087B Acquire system components	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICASAS405A Identify and evaluate IT industry vendor technologies	ICAI5088B Evaluate and negotiate vendor offerings	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS406A Implement and hand over system components	ICAI5089B Implement and hand over system components	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS407A Conduct pre-installation audit for software installation	ICAI5090B Conduct pre-installation audit for software installation	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS408A Complete data transition in data migration process	ICAI5096B Complete data transition	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS409A Manage risks involving ICT systems and technology	ICAI5152B Implement risk management processes	Outcomes deemed equivalent. Added application of unit. Changes to range	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		statement, required skills and knowledge and evidence guide.	
ICASAS410A Identify and resolve client IT problems	ICAS4022B Determine and action client computing problems	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS411A Assist with policy development for client support procedures	ICAS4033B Assist with policy development for client support procedures	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS412A Action change requests	ICAS4106B Action and complete change requests	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS413A Manage resolution of system faults on a live system	ICAS4107B Manage resolution of system faults on a live system	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICASAS414A Evaluate system status	ICAS4109B Evaluate system status	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS415A Optimise IT system performance	ICAS4112B Optimise system performance	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS416A Implement maintenance procedures	ICAS4114B Implement maintenance procedures	Outcomes deemed equivalent. Prerequisite unit removed.  Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS417A Undertake IT system capacity planning	ICAS4116B Undertake capacity planning	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge	E



<b>Mapping to Previous Training Package</b>			
<b>Mapping of units of competency Key: E = equivalent, N = not equivalent</b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		and evidence guide.	
ICASAS418A Monitor and administer security of an IT system	ICAS4119B Monitor and administer system security	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS419A Support system software	ICAS4127B Support system software	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS420A Provide first-level remote help-desk support	ICAS4134C Provide first-level remote help desk support	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS421A Support users and troubleshoot desktop applications		New unit	N/A
ICASAS422A Scope implementation requirements	ICAI5086B Scope implementation requirements	Outcomes deemed equivalent. Added application of	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICASAS424A Support different operating systems		New unit	N/A
ICASAS425A Configure and troubleshoot operating system software		New unit	N/A
ICASAS426A Locate and troubleshoot IT equipment, system and software faults		New unit	N/A
ICASAS501A Develop, implement and evaluate an incident response plan	ICAI5252A Implement risk management processes	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS502A Establish and maintain client user liaison	ICAS5102B Establish and maintain client user liaison	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS503A Perform systems tests	ICAT5081B Perform systems tests	Outcomes deemed equivalent. Prerequisite unit removed. Added application of	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICASAS504A Develop and conduct client acceptance test	ICAT5083B Develop and conduct client acceptance test	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS505A Review and update disaster recovery and contingency plans	ICAA5056B Prepare disaster recovery and contingency plans	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS506A Update IT system operational procedures	ICAD5092B Update and document operational procedures	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to an element.	E
ICASAS507A Implement and evaluate systems for regulatory and standards	ICAI5253A Implement and evaluate systems for regulatory and standards compliance	Outcomes deemed equivalent. Prerequisite unit	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
compliance		removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICASAS509A Provide client IT support services	ICAS5103B Establish and maintain client user liaison during support activity	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS510A Review and develop IT maintenance strategy	ICAS5104B Determine maintenance strategy	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS511A Prioritise IT change requests	ICAS5105B Coordinate change requests	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to performance criteria.	
ICASAS512A Review and manage delivery of maintenance services	ICAS5111B Review and manage delivery of maintenance services	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS513A Develop detailed test plans	ICAT5077B Develop detailed test plan	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS514A Perform integration tests	ICAT5079B Perform integration test	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS515A Manage the testing process	ICAT5082B Manage the testing process	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASAS516A Perform	ICAT5084B Perform stress and	Outcomes deemed	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
stress and load tests on integrated platforms	load tests on integrated platform	equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICASAS517A Use network tools		New unit	N/A
ICASAS518A Install and upgrade operating systems		New unit	N/A
ICASAS601A Implement change-management processes	ICAI6187B Implement change management processes	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICASUS701A Plan and manage virtualisation for IT sustainability		New unit	N/A
ICASUS702A Conduct a business case study for integrating sustainability in IT planning and design projects		New unit	N/A
ICASUS703A Research strategies using SAP solutions for sustainable economic and environmental outcomes		New unit	N/A
ICAWEB201A Use social media tools for collaboration and engagement		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAWEB301A Create a simple markup language document		New unit	N/A
ICAWEB302A Build simple websites using commercial programs		New unit	N/A
ICAWEB303A Produce digital images for the web		New unit	N/A
ICAWEB401A Design a website to meet technical requirements	ICAA4142C Design a website to meet technical requirements	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria.	E
ICAWEB402A Confirm accessibility of websites for people with special needs	ICAT4183B Confirm accessibility of website for people with special needs	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB403A Transfer content to a website using commercial packages	ICAS4201B Transfer content to a website using commercial packages	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAWEB404A Maintain website performance	ICAS4191B Maintain website performance	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB405A Monitor traffic and compile website traffic reports	ICAS4200B Monitor traffic and compile website traffic reports	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB406A Create website testing procedures	ICAT4185B Create a website testing procedure	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB407A Conduct operational acceptance tests of websites	ICAT4186B Conduct operational acceptance tests of websites	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB408A Ensure basic website security	ICAT4194B Ensure basic website security	Outcomes deemed equivalent. Prerequisite unit	E



<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	
ICAWEB409A Develop cascading style sheets	ICAB4171B Develop cascading style sheets	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E
ICAWEB410A Apply web authoring tool to convert client data for websites	ICAU4207B Apply web authoring tool to convert client data for websites	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB411A Produce basic client-side script for dynamic web pages	ICAB4137B Produce basic client side script for dynamic web pages	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.  Changes to elements and performance criteria.	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAWEB412A Produce interactive web animation		New unit	N/A
ICAWEB413A Optimise search engines		New unit	N/A
ICAWEB414A Design simple web page layouts		New unit	N/A
ICAWEB415A Produce server-side script for dynamic web pages		New unit	N/A
ICAWEB416A Customise content management system		New unit	N/A
ICAWEB417A Integrate social web technologies		New unit	N/A
ICAWEB418A Use development software and IT tools to build a basic website	ICAB4169B Use development software and IT tools to build a basic website	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB419A Develop guidelines for uploading information to a website	ICAD4198B Develop guidelines for uploading information to a website	Outcomes deemed equivalent. Prerequisite units removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB420A Write content for web pages	ICAD4209B Write content for web pages	Outcomes deemed equivalent. Added application of	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	
ICAWEB421A Ensure website content meets technical protocols and standards	ICAI4189B Ensure website content meets technical protocols and standards	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB422A Ensure website access and useability	ICAT4184B Ensure site usability for full range of users	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB423A Ensure dynamic website security	ICAT4195B Ensure dynamic website security	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB424A Evaluate and select a web hosting service	ICAS5203B Evaluate and select a web hosting service	Outcomes deemed equivalent. Added application of unit.	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		Changes to range statement, required skills and knowledge and evidence guide.	
ICAWEB425A Apply structured query language to extract and manipulate data		New unit	N/A
ICAWEB429A Create a markup language document to specification	ICAB4135B Create a simple mark-up language document to specification	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICAWEB501A Build a dynamic website	ICAA5141C Design and develop dynamic websites to meet technical requirements	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance criteria.	E
ICAWEB502A Create dynamic web pages	ICAB5165B Create dynamic web pages	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required	E

<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		skills and knowledge and evidence guide. Changes to elements and performance criteria.	
ICAWEB503A Create web-based programs		New unit	N/A
ICAWEB504A Build a document using eXtensible markup language	ICAB5161B Build a document using extensible mark-up language	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to performance criteria	E
ICAWEB505A Develop complex web page layouts		New unit	N/A
ICAWEB506A Develop complex cascading style sheets		New unit	N/A
ICAWEB507A Customise a complex IT content management system		New unit	N/A
ICAWEB508A Develop website information architecture	ICAA5146B Develop website information architecture	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide. Changes to elements and performance	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
		criteria.	
ICAWEB509A Use site server tools for transaction management	ICAU5208B Use site server tools for transaction management	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB510A Analyse information and assign meta-tags	ICAD5210B Analyse information and assign meta-tags	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB511A Implement quality assurance process for websites	ICAI5212B Implement quality assurance process for websites	Outcomes deemed equivalent. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB512A Administer business websites and servers	ICAS5199B Manage business websites and servers	Outcomes deemed equivalent. Prerequisite unit removed. Added application of unit. Changes to range statement, required skills and knowledge and evidence guide.	E
ICAWEB515A Implement and use web services		New unit	N/A

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
ICAWEB516A Research and apply emerging web technology trends		New unit	N/A
N/A	ICAA5044C Develop system infrastructure design plan	Replaced by ICTTEN6206A Produce an ICT network architecture design	E
N/A	ICAA5045C Produce network architecture design	Replaced by ICTTEN6206A Produce an ICT network architecture design	E
N/A	ICAA5140C Design a server	Replaced by ICTTEN5201A Install, configure and test a server	E
N/A	ICAA5158B Translate business needs into technical requirements	Replaced by ICTTEN5204A Produce technical solutions from business specifications	E
N/A	ICAB5160C Build and configure a server	Replaced by ICTTEN5201A Install, configure and test a server	E
N/A	ICAI4097C Install and configure a network	Replaced by ICTTEN4198A Install, configure and test an internet protocol network	E
N/A	ICAI4175C Select and install a router	Replaced by ICTTEN4199A Install, configure and test a router	E

<b>Mapping to Previous Training Package</b>			
<b><i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i></b>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
N/A	ICAI4244A Install and maintain an RFID system	Replaced by ICTTEN4202A Install and test a radio frequency identification system	E
N/A	ICAI5173B Install and configure a single-segment local area network switch	Replaced by ICTTEN5200A Install, configure and test a local area network switch	E
N/A	ICAI5174B Install high-end switches in multi-switched local area networks	Replaced by ICTTEN4213A Configure and troubleshoot advanced network switching	E
N/A	ICAI5176C Install and configure router	Replaced by ICTTEN4199A Install, configure and test a router	E
N/A	ICAT4221B Locate equipment, system and software faults	Replaced by ICTTEN4081A Locate, diagnose and rectify faults	E
N/A	ICAD2003B Receive and process oral and written communication	Deleted - superseded generally across other units.	N/A
N/A	ICAW2011B Work individually or as a team member to achieve organisational goals	Deleted - superseded generally across other units.	N/A
N/A	ICAI4099B Build an intranet	Replaced by ICTTEN4211A Design, install and configure an internetwork.	E



<b>Mapping to Previous Training Package</b>			
<i>Mapping of units of competency Key: E = equivalent, N = not equivalent</i>			
<b>ICA11 Unit code and title</b>	<b>ICA05 Unit code and title</b>	<b>Comments</b>	<b>E/N</b>
N/A	ICAA5245A Evaluate RFID systems	Replaced with ICTTEN5203A Dimension and design a radio frequency identification system.	E
N/A	ICAA5246A Design an RFID implementation	Replaced with ICTTEN5203A Dimension and design a radio frequency identification system.	E
N/A	ICAU3004B Apply occupational health and safety procedures	Deleted - superseded generally across other units.	N/A
N/A	ICAT1206B Check site security	Deleted - superseded generally across other units.	N/A
N/A	ICAU1213B Conduct online transactions	Deleted - superseded generally across other units.	N/A

## 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 people's 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 2010 (AQTF 2010), 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?**

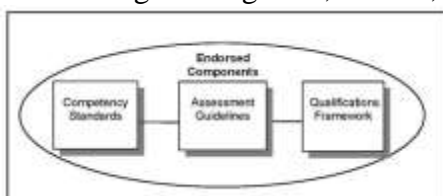
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2010.

### **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 2010. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

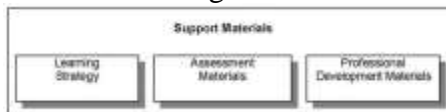
## Qualifications Framework

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.

## 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 XYZ08. 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 XYZ10108. 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 ICADBS401A;
- the first three characters signify the Training Package – ICA11 Information and Communications Technology Training Package – 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: ICA10111 Certificate I in Information, Digital Media and Technology

## 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: ICADBS401A Identify physical database requirements

## Introduction to the ICA11 Information and Communications Technology Training Package

### Historical and General Information

There have been two previous versions of ICA Training Package. The first edition, ICA99, was released in May 1999 and was superseded by ICA05, which was released in November 2005.

Over the past few years, ICT industry coverage has expanded to include the convergence of technologies across a number of industry areas, including networking, web development, software development, database integration, sustainability, application implementation, telecommunications, digital and interactive games and digital media technologies. The ICA11 Training Package review project identified a number of new and emerging technology trends in the industry that have occurred since the ICA05 Information and Communications Technology Training Package was developed.

Also, the Federal Government is heavily committed to initiatives, such as the high-speed National Broadband Network (NBN) roll out, the Digital Economy, Digital Education Revolution (DER) computers in schools program, and the implementation of the 'Green ICT' sustainability strategy, all of which will impact on the Information and Communications Technology industry. It was considered critical that ICA05 Information and Communications Technology Training Package be updated, enhanced and refreshed to reflect the technology changes and terminologies that have emerged since the National Quality Council (NQC) endorsed Version 3.0 of ICA05 Training Package in 2009.

The ICA05 Training Package scoping review was undertaken during 2009 with the task of determining how the Training Package could be revised to ensure that its endorsed components are made more industry relevant and sufficiently flexible to better meet the current and anticipated future vocational training and skills recognition needs and requirements of employers, employees and providers.

The report "Scoping Review of the ICA05 Information and Communications Technology Training Package v3" (ICA05 Scoping Report) was completed in December 2009. This report's findings were subsequently taken up in Stage 2 of the ICA05 Training Package Review project which started in March 2010.

### Methodology

The review of ICA05 Information and Communications Technology Training Package was undertaken to ensure it reflects current industry requirements and that it remains technically relevant for future innovations and emerging skill needs.

Key features of the methodology of the review were:

- establishment of a National Project Reference Group (NPRG)
- establishment of an Expert Advisory Panel (EAP) to provide technical advice and support
- establishment of a communications strategy and review of research and industry information through consultation workshops conducted in each state and territory, industry consultation meetings, specific qualification teleconferences and wiki forums
- collection of feedback on draft units of competency and qualifications from a wide range of stakeholders
- establishment of National Expert Working Groups (NEWG) for each key qualification area
- development of draft units of competency and qualifications and loading on to the wiki and the review and feedback register of the IBSA website
- validation of draft units of competency and qualifications at national consultation meetings, NEWG teleconferences and incorporation of stakeholder feedback into final drafts where appropriate
- endorsement of final documentation by EAP and NPRG.

### **ICA11 key revisions**

The ICA11 Information and Communications Technology Training Package development has resulted in a number of revisions to ICA05 Information and Communications Technology Training Package.

### **Qualifications**

The structure of the qualifications now includes the following benefits for registered training organisations (RTOs) and industry:

- smaller number of core units with better range of elective units allowing for better flexibility of qualification packaging rules to meet industry needs and changes
- inclusion of sustainability units in all qualifications to reflect Federal Government initiatives
- introduction of social web and digital technology skills in the entry-level Certificates I, II and III qualifications to support the inclusion of these technologies into the Training Package
- new unit coding to facilitate easy identification of nominal Australian Qualifications Framework (AQF) level and category (e.g. networking unit at nominal AQF level 4)
- packaging rules that assist industry through qualification requirements that provide a combination of identified elective unit selection and the capability to import non-ICA units.

### **Unit of competency selection**

When an RTO is selecting the elective units of competency for a qualification, some units can be imported from other Training Packages, as outlined in the packaging rules of the individual qualifications. This gives RTOs more flexibility to create innovative programs; better adapted to customer needs, local industry and the changing nature of the industry.

### **Imported units**

Imported units from other Training Packages should be appropriate to the level and integrity of the qualification and to the workplace outcomes the qualification is designed to meet.

### **New technologies**

ICT industry coverage now includes convergence of technologies across a number of industry areas, including networking, web development, software development, database integration, sustainability, application implementation, telecommunications, digital and interactive games and digital media technologies.

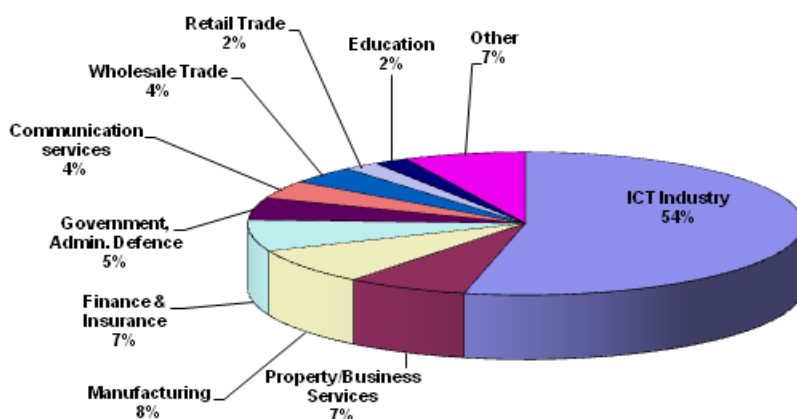
The ICA11 Training Package review project identified a number of new and emerging technology trends in the industry. The qualifications and units of competency were reviewed and developed to reflect these changes with a number of focus areas specifically identified, including:

- interactive and digital games
- digital media technologies
- broadband/wireless
- cloud computing
- social web technologies
- mobile devices
- network security
- digital literacy.

## **Introduction to the Industry**

The ICT industry in Australia is estimated to have generated \$85-\$98 billion in revenue for the year 2008-2009, to have employed some 268,000 people in 2007-2008 and, as of February 2009, to employ a total of 532,500 ICT workers in all industries across Australia. (*Source: ABS Labour Market Survey Feb 2009, ICT Industry logistics CIER 2008 as reported in Australian Computer Society (July 2009). ACS Australian ICT Statistical Compendium 2009, pages 6-7).*)

ICT employment and occupations fall across all sectors and industries in Australia. Of the total number of people employed in ICT occupations in 2007-2008 (ABS 2008), just over half (54%) actually fell within what can be classified as the ICT industry division.



*DEEWR 2007, adjusted by CIER to compensate for ICT industry sector excision as reported in IBSA eScan report; Allen Consulting Group (April 2009). Environmental Scan 2009. IBSA: Melbourne. p. 35.*

ICA11 needs to cater for those seeking a professional career pathway in the ICT industry as well as those seeking the ICT skills to support careers in a myriad of associated industries. It also needs to be acknowledged that information technology and IT workers are spread across many diverse non-ICT industries, with their jobs not recognised in the ICT occupation skills classifications. Indications are that up to 80% of students undertaking ICT qualifications do not progress beyond AQF Certificate III level, but move horizontally with their ICT knowledge and skills into other non-ICT industries.

As with many other sectors, technological convergence is affecting the way people work in the technical industries. The changing nature of the information and communications technology industries over the past decade has resulted in the need to accommodate a variety of changes in the review of ICA11.

The Australian ICT industry has become more of a service industry than a specialised IT focused industry with the result that national ICT career pathways are becoming more vertical than horizontal and are requiring the versatility to incorporate a mix of various ICT skills rather than relying on the historically fixed specialist ICT stream career pathway.



The shift to a more service-focused industry base and the need for flexibility in career pathways for the Australian ICT industry has had a major influence on the development of ICA11. When the ICA Training Package was updated from 1999 to later versions, stand-alone career pathways were created in anticipation of Australia becoming a 'development house' for Asia and the local region. These aspirations simply have not eventuated and the feedback and data from the ICA05 Scoping Report indicate that we are now further away than ever from being a globally competitive, development-oriented IT industry. To clarify this position we can analyse, as an example, the career pathway data for specialist programmers which shows a gradual decline in demand over the past decade. This is not to say such jobs do not exist in niche industry areas or regions, but the national career pathways have now blurred and converged across other sectors both in IT and non-IT areas. "Programming" now needs to be augmented with some other skill sets, such as management, games development, web development; "Software Development" with other skill sets such as helpdesk/service centre support. This scenario relating to increasing skills also holds true for many of the other ICT career pathways.

To fully encompass these industry-identified changes, ICA11 has incorporated both a horizontal and vertical approach to ICT career pathway progression. The ICA11 qualifications have been developed to enable a specialist outcome in the key ICT areas combined with the flexibility to incorporate a diverse range of skill sets so as to provide a wider career pathway outcome.

Medium to small business enterprises are becoming more common in the industry. Due to their cost structures and business requirements, these enterprises need graduates with applied general IT skills rather than with a full specialist qualification. While the need to develop specialist pathways is still critically important, ICA11 needs to also offer the flexibility to cater for broader cross-specialisation skill sets and career pathways.

The combination of the above with the most recent initiatives also detailed above, such as NBN, DER, computers in schools, and green and sustainable IT, is creating major growth in the ICT industry in Australia as well as potentially generating a rising demand for both general and niche specialist IT skills. This situation is also causing a blurring of traditional IT job profiles and formal IT occupational boundaries, with the integration of competencies across IT, telecommunications, digital art and 3D rendering, mobile applications development, data storage, games development and entertainment.

As a result, this has created a significant shift to current ICT technologies including a greater application of:

- networks (using wireless for data and voice) and overlay of broadband
- IP-based communications, broadcasting, switching and transmission
- enhancements to content and network management capabilities
- wireless and mobile systems
- mesh and cloud networks
- green technology requirements
- interactive and digital games development
- digital media technologies
- social web technologies
- network security
- digital literacy.

Consultation on the above included discussions with and input from key industry stakeholders, with the result that the revised qualifications, skill sets and units of competency include, where relevant, many of the areas mentioned above. Furthermore, care was taken to develop the ICA11 units to allow contextualisation, as industry practice adapts to new trends and technologies.

The ICA11 Training Package review also incorporated relevant government initiatives in the areas of sustainability, digital literacy, OHS and language, literacy and numeracy into each of the qualifications as follows:

- sustainability skills units developed in BSB07 Business Services Training Package or ICT10 Integrated Telecommunications Training Package have been embedded in the core or elective groups of each qualification
- language, literacy and numeracy skills have been described appropriately for all competency outcomes
- units of competency covering digital literacy have been incorporated at entry level.

Industry, industry associations and providers have been extensively consulted through national consultation workshops in all states and territories, industry workshops and electronic collaborations. Their advice, suggestions and key recommendations were incorporated as a key component in the development of this Training Package.

The ICA11 Training Package also provides support for movement of skills within and across organisations and sectors. The packaging rules for qualifications are clear and consistent and allow a logical progression of skills development between AQF levels. The Training Package allows for multiple entry points and progression pathways enabling a formal learning progression from AQF 1 through to Advanced Diploma and Vocational Graduate Certificate level.

To increase the flexibility and portability of ICA11 qualifications, units of competency have been imported from the following endorsed Training Packages:

- BSB07 Business Services
- CPP07 Property Services
- CUF07 Screen and Media
- CUV03 Visual Arts, Craft and Design
- CUS09 Music
- CUE03 Entertainment
- ICP10 Printing and Graphic Arts
- ICT10 Integrated Telecommunications.

## 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*.

[http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF\\_Handbook\\_07.pdf](http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf)

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 2010 *Essential Standards for Initial and Continuing 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)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Under the AQTF 2010, 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*

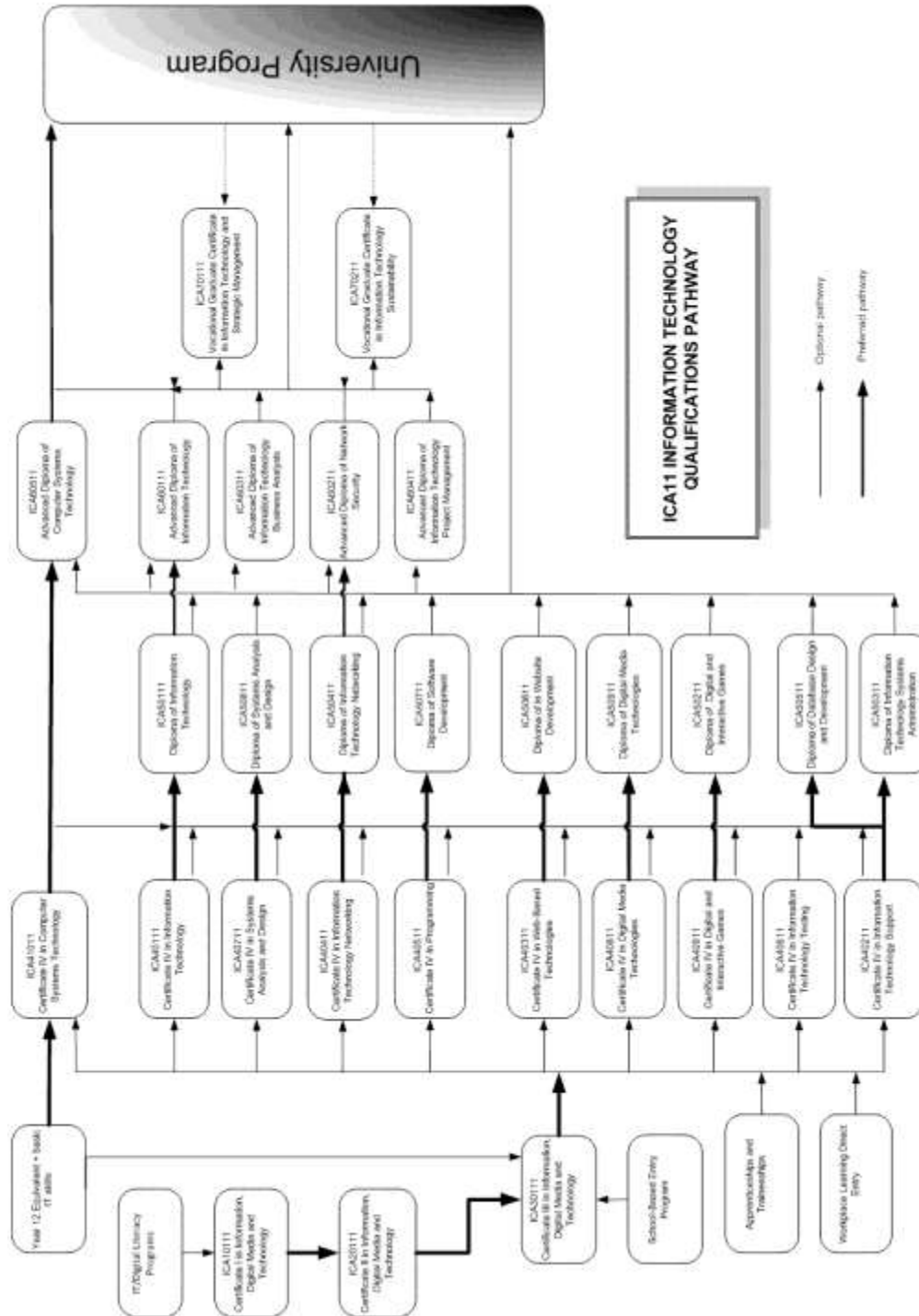
- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- 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.

## **Qualifications and Packaging Rules**



## 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 Skills Australia on phone +61 3 9815 7000 or email at [virtual@ibsa.org.au](mailto:virtual@ibsa.org.au).



## 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 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment. [http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF\\_Handbook\\_07.pdf](http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf)

### Skill Sets in this Training Package

This section provides information on Skill Sets within this Training Package, with the following important disclaimer: Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.

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

ICA11 sees the introduction of the following 26 skills sets:

- Application Development Specialist Skill Set
- Basic Application Development Programmer Skill Set
- Basic Computer Hardware and System Troubleshooting Skill Set
- Basic Web Development Specialist Skill Set
- Certified IT Network Enterprise, Security or Server Administrator Skill Set
- Certified Network Associate Technology Specialist Skill Set
- Certified Network Professional Specialist Skill Set
- Certified Network Professional Specialist – Voice Skill Set
- Certified Network Professional Specialist – Wireless Skill Set
- Certified Networking Technician Skill Set
- Certified Security and Architect Specialist Skill Set
- Certified Technician or Technology Specialist - Infrastructure Configuration Skill Set
- Certified Technology Specialist - Graphical User Interfaces Skill Set
- Certified Web Design Specialist Skill Set
- Computing and Application Fundamentals Skill Set
- Computing Fundamentals Skill Set
- Digital Literacy Skill Set
- Digital Literacy - eCitizen Skill Set
- Hardware Technician Skill Set
- Internetworking Systems Coordinator/Administrator Skill Set
- Rich Interactive Content Specialist Skill Set
- System and Hardware Plus Technician Skill Set
- System and Network Plus Technician Skill Set
- Virtualisation Specialist Skill Set
- Visual Communications Specialist Skill Set
- Website Administration Specialist Skill Set

Skill sets are designed to be available to industry to train participants in a particular skill set. They contain units of competency that will be awarded with a Statement of Attainment and are able to be counted towards a qualification. Where possible, Skill Sets are aligned to a range of vendor training programs that are used as a basis for industry certifications. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.

## 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](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.

### Employability Skills Framework

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

Skill	Facets <i>Aspects of the skill that employers identify as important. The nature and application of these facets will vary depending on industry and job type.</i>
<b>Communication</b> that contributes to productive and harmonious relations across employees and customers	<ul style="list-style-type: none"> <li>• listening and understanding</li> <li>• speaking clearly and directly</li> <li>• writing to the needs of the audience</li> <li>• negotiating responsively</li> <li>• reading independently</li> <li>• empathising</li> <li>• using numeracy effectively</li> <li>• understanding the needs of internal and external customers</li> <li>• persuading effectively</li> <li>• establishing and using networks</li> <li>• being assertive</li> </ul>

	<ul style="list-style-type: none"> <li>• sharing information</li> <li>• speaking and writing in languages other than English</li> </ul>
<b>Teamwork</b> that contributes to productive working relationships and outcomes	<ul style="list-style-type: none"> <li>• working across different ages irrespective of gender, race, religion or political persuasion</li> <li>• working as an individual and as a member of a team</li> <li>• knowing how to define a role as part of the team</li> <li>• applying teamwork to a range of situations e.g. futures planning and crisis problem solving</li> <li>• identifying the strengths of team members</li> <li>• coaching and mentoring skills, including giving feedback</li> </ul>
<b>Problem solving</b> that contributes to productive outcomes	<ul style="list-style-type: none"> <li>• developing creative, innovative and practical solutions</li> <li>• showing independence and initiative in identifying and solving problems</li> <li>• solving problems in teams</li> <li>• applying a range of strategies to problem solving</li> <li>• using mathematics, including budgeting and financial management to solve problems</li> <li>• applying problem-solving strategies across a range of areas</li> <li>• testing assumptions, taking into account the context of data and circumstances</li> <li>• resolving customer concerns in relation to complex project issues</li> </ul>
<b>Initiative and enterprise</b> that contribute to innovative outcomes	<ul style="list-style-type: none"> <li>• adapting to new situations</li> <li>• developing a strategic, creative and long-term vision</li> <li>• being creative</li> <li>• identifying opportunities not obvious to others</li> <li>• translating ideas into action</li> <li>• generating a range of options</li> <li>• initiating innovative solutions</li> </ul>
<b>Planning and organising</b> that contribute to long and short-term strategic planning	<ul style="list-style-type: none"> <li>• managing time and priorities - setting time lines, coordinating tasks for self and with others</li> </ul>

	<ul style="list-style-type: none"> <li>• being resourceful</li> <li>• taking initiative and making decisions</li> <li>• adapting resource allocations to cope with contingencies</li> <li>• establishing clear project goals and deliverables</li> <li>• allocating people and other resources to tasks</li> <li>• planning the use of resources, including time management</li> <li>• participating in continuous improvement and planning processes</li> <li>• developing a vision and a proactive plan to accompany it</li> <li>• predicting - weighing up risk, evaluating alternatives and applying evaluation criteria</li> <li>• collecting, analysing and organising information</li> <li>• understanding basic business systems and their relationships</li> </ul>
<p><b>Self-management</b> that contributes to employee satisfaction and growth</p>	<ul style="list-style-type: none"> <li>• having a personal vision and goals</li> <li>• evaluating and monitoring own performance</li> <li>• having knowledge and confidence in own ideas and visions</li> <li>• articulating own ideas and visions</li> <li>• taking responsibility</li> </ul>
<p><b>Learning</b> that contributes to ongoing improvement and expansion in employee and company operations and outcomes</p>	<ul style="list-style-type: none"> <li>• managing own learning</li> <li>• contributing to the learning community at the workplace</li> <li>• using a range of mediums to learn - mentoring, peer support and networking, IT and courses</li> <li>• applying learning to technical issues (e.g. learning about products) and people issues (e.g. interpersonal and cultural aspects of work)</li> <li>• having enthusiasm for ongoing learning</li> <li>• being willing to learn in any setting - on and off the job</li> <li>• being open to new ideas and techniques</li> <li>• being prepared to invest time and effort in learning new skills</li> <li>• acknowledging the need to learn in order to</li> </ul>

	accommodate change
<b>Technology</b> that contributes to the effective carrying out of tasks	<ul style="list-style-type: none"> <li>• having a range of basic IT skills</li> <li>• applying IT as a management tool</li> <li>• using IT to organise data</li> <li>• being willing to learn new IT skills</li> <li>• having the OHS knowledge to apply technology</li> <li>• having the appropriate physical capacity</li> </ul>

### 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

ICA11 Information and Communications 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.

ICA11 Information and Communications Technology Training Package also seeks to ensure that employability skills are well-defined and written into units of competency so that they are apparent, clear and can be delivered and assessed as an essential component of unit work outcomes.

## Assessment Guidelines

### Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the Australian Quality Training Framework (*AQTF Essential Standards for Initial and Continuing Registration*). Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

### Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing and registration requirements; and assessment pathways.

Quality assessment underpins the credibility of the vocational education and training sector. The Assessment Guidelines of a Training Package are an important tool in supporting quality assessment.

Assessment within the National Skills Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

Assessment must be carried out in accordance with the:

- benchmarks for assessment
- specific industry requirements
- principles of assessment
- rules of evidence
- assessment requirements set out in the AQTF.

### Benchmarks for Assessment



The endorsed units of competency in this Training Package are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

### **Principles of Assessment**

All assessments carried out by RTOs are required to demonstrate compliance with the principles of assessment:

- validity
- reliability
- flexibility
- fairness
- sufficiency.

These principles must be addressed in the:

- design, establishment and management of the assessment system for this Training Package
- development of assessment tools, and
- the conduct of assessment.
- 

#### *Validity*

Assessment is valid when the process is sound and assesses what it claims to assess. Validity requires that:

- (a) assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
- (b) assessment of knowledge and skills must be integrated with their practical application
- (c) judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The specific evidence requirements of each unit of competency provide advice on sufficiency

#### *Reliability*

Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

#### *Flexibility*

To be flexible, assessment should reflect the candidate's needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.

### *Fairness*

Fairness in assessment requires consideration of the individual candidate's needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.

### *Sufficiency*

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.

## **Rules of Evidence**

The rules of evidence guide the collection of evidence that address the principles of validity and reliability, guiding the collection of evidence to ensure that it is valid, sufficient, current and authentic.

### *Valid*

Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

### *Sufficient*

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

### *Current*

In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

### *Authentic*

To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate's own work.

## **Assessment Requirements of the Australian Quality Training Framework**

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 Essential Standards for Registration.

The AQTF 2010 Essential Standards for Initial and Continuing Registration can be downloaded from <[www.training.com.au](http://www.training.com.au)>.

The following points summarise the assessment requirements.

### **Registration of Training Organisations**

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering Body in accordance with the AQTF. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration.

### **Quality Training and Assessment**

Each RTO must provide quality training and assessment across all its operations. See the *AQTF 2010 Essential Standards for Initial and Continuing Registration*, Standard 1.

### **Assessor Competency Requirements**

Each person involved in training and assessment must be competent for the functions they perform. See the *AQTF 2010 Essential Standards for Initial and Continuing Registration*, Standard 1 for assessor (and trainer) competency requirements. See also the *AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2*.

### **Assessment Requirements**

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the *AQTF 2010 Essential Standards for Initial and Continuing Registration*.

### **Assessment Strategies**

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

### **National Recognition**

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

### **Access and Equity and Client Outcomes**

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

### **Monitoring Assessments**

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

### **Recording Assessment Outcomes**

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

### **Issuing AQF qualifications and Statements of Attainment**

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current AQF *Implementation Handbook* and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF and the edition of the *AQF Implementation Handbook* – available on the AQF Council website <[www.aqf.edu.au](http://www.aqf.edu.au)>.

### **Licensing/Registration Requirements**

This section provides information on licensing/registration requirements for this Training Package, with the following important disclaimer:

Licensing and registration requirements that apply to specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package, and DEEWR, consider that the licensing/registration requirements described in this section apply to registered training organisations (RTOs), assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and DEEWR cannot guarantee it is definitive or accurate at the time of reading; the information is provided in good faith on that basis.

The ICA11 Information and Communications Technology Training Package has minimal licensing/registration requirements. The only units of competency requiring licensing are the following elective units imported from the ICT10 Integrated Telecommunications Training Package into the Certificate IV in Information Technology Support:

- ICTCBL2136A Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule
- ICTCBL2137A Install, maintain and modify customer premises communications cabling: ACMA Open Rule.
- 

If using these units please contact the relevant State or Territory Department(s) to check if the licensing/registration requirements described below still apply, and to check if there are any others with which you must comply. Please refer to the ICT10 Integrated Telecommunications Training Package for further details.

### Requirements for Assessors

In order to conduct assessment in these units for statutory licensing or other industry registration requirements, assessors must meet the requirements outlined in the following table, in addition to the AQTF requirements.

LICENCE/ REGISTRATION	JURISDICTION	REQUIREMENTS
Restricted Registration ICTCBL2136A	Australian Communications and Media Authority	Restricted Registered Cabler TITAB registered assessor
Open Registration ICTCBL2137A	Australian Communications and Media Authority	Open Registered Cabler TITAB registered assessor

### Assessor competencies

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF Essential Standards for Registration follows.

- 1.4 Training and assessment are conducted by trainers and assessors who:
- a) have the necessary training and assessment competencies as determined by the National Quality Council or its successors
  - b) have the relevant vocational competencies at least to the level being delivered or assessed
  - c) can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and
  - d) continue to develop their vocational education and training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence.

## Requirements for RTOs

### Training and assessment in remote and regional areas

Training and assessing candidates in remote and regional areas present a range of challenges. These include:

- lack of numbers preventing the establishment of traditional class sizes
- physical remoteness of some communities, where access to training facilities is limited
- scarcity of teachers with the required industry experience
- scarcity of physical training resources (e.g. current and emerging technology).
- 

Some options for overcoming these challenges include:

- partnerships between RTOs to establish classes, i.e. programs delivered on a regional rather than local basis
- delivering certain units by distance mode
- partnerships between industry and RTOs to share resources and personnel
- partnerships between schools and RTOs
- use of technology (e.g. email, CDs and internet) and self-paced resources.
- 

### **Assessment in a simulated environment**

Units of competency in the ICA11 Information and Communications Technology Training Package may be assessed in the workplace or in a simulated environment.

The information technology industry involves the use of technologies and processes which have a potentially high impact on customers and a high cost of failure. Normal practice is to protect these technologies and processes from any risk. Therefore assessment of training candidates often cannot be undertaken in normal operating environments.

In response to this, industry practice for many years has been to develop models and simulations on which assessments are conducted. As a result, assessment of candidates for many of the units of competency in the ICA11 Information and Communications Technology Training Package can only be undertaken using simulations. To maintain the integrity of these assessments, RTOs and assessors need to be vigilant in keeping pace with the industry and in checking that assessment simulations accurately reflect workplace activities. RTOs will need regular contact with industry to ensure the currency and validity of assessment simulations.

To assist assessors, the following information provides a framework for conducting assessments in simulated environments.

Simulations must provide opportunities for integrated assessment of competence that includes:

- performing the task (task skills)
- managing a number of tasks (task management skills)
- dealing with workplace irregularities such as unexpected problems, breakdowns and changes in routine (contingency management skills)
- fulfilling the responsibilities and expectations of the job and workplace, including working with others (job/role environment skills)
- transferring competencies to new contexts.
- 

All evidence from simulated activities must result from activities that have taken place in a realistic work environment that replicates the conditions and circumstances in which the candidate will usually be expected to work.

Working 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 include relationships, constraints and pressures met in the workplace.

Assessment activities 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.

### **Workplace simulation criteria**

In conducting an assessment using a simulation, assessors should review the process prior to its implementation. The simulation must give the candidate the opportunity to meet three critical criteria. These are:

- quality – the work is of the standard required for entry into the industry
- productivity – the work is performed within a time frame appropriate for entry to the industry
- safety – the work is performed in a manner that meets industry safety standards.
- 

Where assessment simulations meet these criteria, RTOs can be sure that candidates are ‘work ready’ on successful completion of the assessment task.

In addition, the assessment process should be reviewed to ensure that, wherever applicable, it:

- uses facilities and equipment that meet current industry standards
- includes typical customers, including difficult customers and diverse types of customers
- integrates various types of work performance – multiple tasks, prioritisation, service standards and OHS
- requires allocation of time to tasks and deadlines
- measures consistent performance over time
- includes work with others in teams
- requires consideration of budget constraints
- includes use of operational procedures and guidelines.
- 

To further enhance the validity of assessment process using simulation, the assessor should consider:

- assessments covering a range of interconnected units of competency
- use of assessment checklists to assist in identifying critical performance criteria
- use of self assessment, peer assessment and debriefing activities
- use of authentic documentation, e.g. workplace roles, OHS regulations, salary advice, marketing information, procedural manuals, policies, and enterprise bargaining agreements.
- 

### **Training and assessment issues for schools**

Implementation of ICA11 Information and Communications Technology 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.

The units of competency provide more detailed guidance for training and assessment purposes, as well as examples relevant to each unit, and schools are encouraged to use these guidelines when planning training and assessment.

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

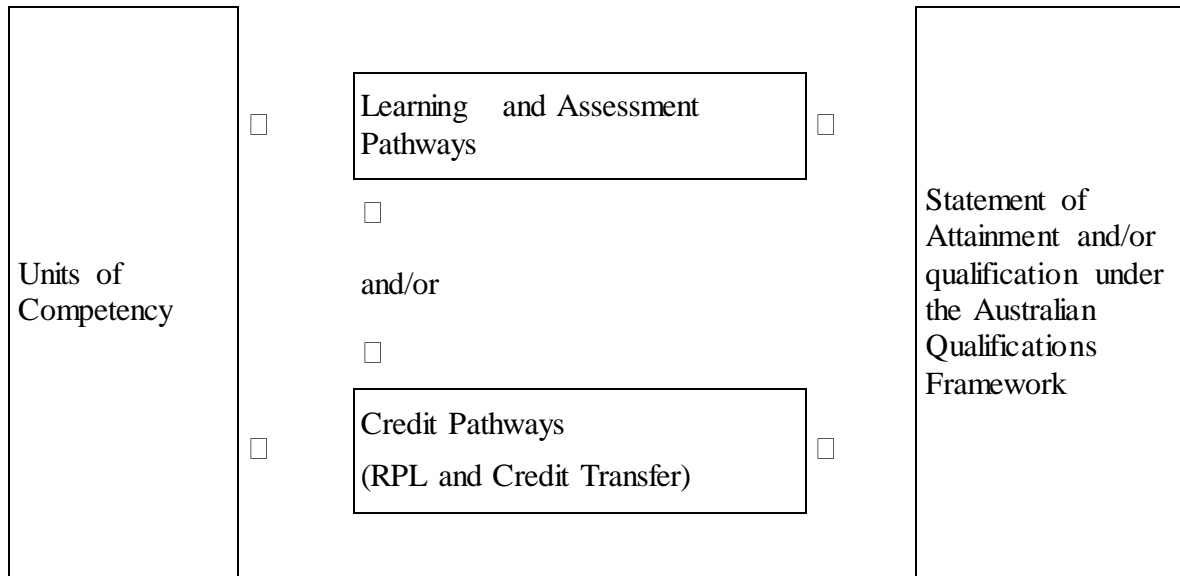
### **Pathways**

The competencies in this Training Package may be attained in a number of ways including through:



- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, or a recognition pathway, or a combination of the two as illustrated in the following diagram.



Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired. Assessment, by any pathway, must comply with the assessment requirements set out in the Assessment Guidelines of the Training Package, the AQTF and, where relevant, the Australian Qualifications Framework.

**Learning and Assessment Pathways**

Usually, learning and assessment are integrated, with evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

## Credit Pathways

*Credit* is the value assigned for the recognition of equivalence in content between different types of learning and/or qualifications which reduces the volume of learning required to achieve a qualification.

Credit arrangements must be offered by all RTOs that offer Training Package qualifications. Each RTO must have a systematic institutional approach with clear, accessible and transparent policies and procedures.

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were acquired, provided that the learning is relevant to the unit of competency outcomes.

## Recognition of Prior Learning

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.

The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.

The recognition of prior learning pathway is appropriate for candidates who have previously attained skills and knowledge and who, when enrolling in qualifications, seek to shorten the duration of their training and either continue or commence working. This may include the following groups of people:

- existing workers;
- individuals with overseas qualifications;
- recent migrants with established work histories;
- people returning to the workplace; and
- people with disabilities or injuries requiring a change in career.
- 

As with all assessment, RPL assessment should be undertaken by academic or teaching staff with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures.

Assessment methods used for RPL should provide a range of ways for individuals to demonstrate that they have met the required outcomes and can be granted credit. These might include:

- questioning (oral or written)
- consideration of a portfolio and review of contents
- consideration of third party reports and/or other documentation such as documentation such as articles, reports, project material, papers, testimonials or other products prepared by the RPL applicant that relate to the learning outcomes of the relevant qualification component
- mapping of learning outcomes from prior formal or non-formal learning to the relevant qualification components
- observation of performance, and
- participation in structured assessment activities the individual would normally be required to undertake if they were enrolled in the qualification component/s.
- 

In a Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of the AQTF must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, work samples and/or observation of the candidate. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work);
- valid (directly related to the current version of the relevant endorsed unit of competency);
- reliable (shows that the candidate consistently meets the endorsed unit of competency);
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency); and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).
- 

### **Credit Transfer**

*Credit transfer is a process which provides learners with agreed and consistent credit outcomes based on equivalences in content between matched qualifications.*

This process involves education institutions:

- mapping, comparing and evaluating the extent to which the *defined learning outcomes and assessment requirements* of the *individual components of one qualification* are equivalent to the learning outcomes and assessment requirements of the individual components of another qualification
- making an educational judgment of the credit outcomes to be assigned between the matched components of the two qualifications
- setting out the agreed credit outcomes in a documented arrangement or agreement, and
- publicising the arrangement/agreement and credit available.
- 

### **Combination of Pathways**

Credit may be awarded on the basis of a combination of credit transfer plus an individual RPL assessment for additional learning. Once credit has been awarded on the basis of RPL, subsequent credit transfer based on these learning outcomes should not include revisiting the RPL assessment but should be based on credit transfer or articulation or other arrangements between providers.

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

### **Assessor Requirements**

This section identifies the specific requirements on the vocational competence and experience for assessors, to ensure that they meet the needs of industry and their obligations under AQTF, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

### **Assessor Competencies**

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 *Essential Standards for Registration* follows:

- 1.4 Training and assessment are conducted by trainers and assessors who:
- a. have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
  - b. have the relevant vocational competencies at least to the level being delivered or assessed, and
  - c. can demonstrate current industry skills directly relevant to the training/assessment

being undertaken, and

d. continue to develop their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence.

\* See AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2

## 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](http://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.

According to the Australian Bureau of Statistics (ABS), 2003, Survey of Disability, Ageing and Carers (SDAC) in the section on education and employment:

‘In 2003, one in four people (24%) aged 15–64 years with a profound or severe core activity limitation, who were living in households, had completed Year 12. This compares to half (49%) of those without a disability. People with a profound or severe core activity limitation were less likely to have completed a diploma or higher qualification (14%) than those without a disability (28%).’

Employment related findings, for people aged 15–64 years living in households, from the ABS 2003 SDAC include:

- those with a profound level of core-activity limitation had a much lower labour force participation rate (15%) than people without a disability (81%)
- people with a disability who were employed were more likely to work part-time (37%) than those who were employed and did not have a disability (29%)
- people employed in agriculture, forestry and fishing (16%) had a relatively high disability rate compared to the overall rate for those employed (11%).’
- 

Clearly there is much work still to be done to ensure that people who have a disability are able to participate in employment and vocational education and training as fully as possible.

### **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.

According to the ABS 2003 SDAC:

‘One in five people in Australia (3,958,300 or 20.0%) had a reported disability. This rate was much the same for males (19.8%) and females (20.1%). Disability was defined as any limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities. Examples range from hearing loss which requires the use of a hearing aid, to difficulty dressing due to arthritis, to advanced dementia requiring constant help and supervision.’

The ABS 2003 SDAC information also tells us that:

‘15.2% (600,300) of people with a disability reported that the cause of their main health condition was accident or injury, 14% (557 300) that it was disease, illness or heredity, and 11% (423,500) that it was "working conditions, work or over-work".’

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, co ordination and referral services for people with a disability interested in or enrolled in post school education and training’ ([www.deewr.gov.au](http://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.

Type of disability	Reasonable adjustment
Acquired brain injury	<ul style="list-style-type: none"> <li>• Memory aids (posters, notes, etc.)</li> <li>• Reflective listening skills</li> <li>• Stress minimisation</li> <li>• Time and patience</li> </ul>
Hearing impairment	<ul style="list-style-type: none"> <li>• Audio loops for people using hearing aids</li> <li>• Plain English documents</li> <li>• Fire and alarm systems with flashing lights</li> <li>• Sign language interpreters</li> </ul>



Type of disability	Reasonable adjustment
	<ul style="list-style-type: none"> <li>• Telephone typewriters</li> </ul>
Intellectual disability	<ul style="list-style-type: none"> <li>• Additional time</li> <li>• Assessment which is appropriate to the skill (i.e. avoiding written assessment for practical tasks)</li> <li>• Mentors</li> <li>• Plain English documents</li> <li>• Practical learning sessions</li> <li>• Repetition of learning exercises</li> </ul>
Mobility impairment	<ul style="list-style-type: none"> <li>• Access to aids, such as for holding documents</li> <li>• Adjustable tables</li> <li>• Lifting limits</li> <li>• Note-taking support</li> <li>• Verbal rather than written presentations</li> <li>• Personal computers</li> <li>• Wheelchair access</li> </ul>
Psychiatric disability	<ul style="list-style-type: none"> <li>• Identification and avoidance of stresses</li> <li>• Ongoing rather than formal assessments</li> <li>• Reflective listening skills</li> <li>• 'Time-out' breaks in assessment</li> </ul>
Speech impairment	<ul style="list-style-type: none"> <li>• Information summaries</li> <li>• Stress minimisation</li> <li>• Time and patience</li> <li>• Written rather than verbal opportunities</li> </ul>
Vision impairment	<ul style="list-style-type: none"> <li>• Additional writing time for assignments and tests</li> <li>• Audiotapes</li> <li>• Braille translations</li> <li>• Enlarged computer screen images</li> <li>• Enlarged text and images</li> <li>• Good lighting or reading lamps</li> <li>• Guide dog provision</li> <li>• Informing the person before moving furniture</li> <li>• Voice synthesisers on computers</li> </ul>

## 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 word '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 word '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, such as 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 communication 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 recognise, adopt and practise 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 ICA11 Information and Communications Technology 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 ICA11 Information and Communications Technology 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.

## Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

### Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

### Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these relate to the current version of the relevant unit of competency. The current unit of competency can be checked on the National Register <[www.ntis.gov.au](http://www.ntis.gov.au)>.

### Developing Assessment Tools

When developing their own assessment tools, assessors must ensure that the tools:

- are benchmarked against the relevant unit or units of competency;
- are reviewed as part of the validation of assessment strategies required under the AQTF; and
- meet the assessment requirements expressed in the AQTF 2010 Essential Standards for Initial and Continuing Registration.

A key reference for assessors developing assessment tools is TAE10 Training and Education Training Package.

### Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations.

## Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

### Mandatory Assessment Requirements

Assessments must meet the criteria set out in the AQTF 2010 *Essential Standards for Initial and Continuing Registration*. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 *Essential Standards for Initial and Continuing Registration* are as follows:

1.5 Assessment, including Recognition of Prior Learning (RPL):

- a. meets the requirements of the relevant Training Package or accredited course
- b. is conducted in accordance with the principles of assessment and the rules of evidence
- c. meets workplace and, where relevant, regulatory requirements
- d. is systematically validated.

### Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such, they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.

Employability Skills are embedded within each unit of competency, and an Employability Skills Summary is available for each qualification. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.
- 

The National Quality Council has endorsed a model for assessing and reporting Employability Skills, which contains further suggestions about good practice strategies in teaching, assessing, learning and reporting Employability Skills. The model is available from <http://www.training.com.au/>.

The endorsed approach includes learners downloading qualification specific Employability Skills Summaries for Training Package qualifications from an online repository at <http://employabilityskills.training.com.au>

For more information on Employability Skills in Innovation and Business Skills Australia's Training Packages go to the Innovation and Business Skills Australia website at <http://www.ibsa.org.au>

Employability Skills are reported on each qualification using the following statement on the qualification testamur: "A summary of the Employability Skills developed through this qualification can be downloaded from <http://employabilityskills.training.com.au> "

### **Access and Equity**

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package: training and assessment must be bias-free.

Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia's VET clients and Australia's current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia's economic development and social and cultural life.

### **Reasonable Adjustments**

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.

Under the Disability Standards for Education 2005, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While 'reasonable adjustment' and 'unjustifiable hardship' are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student's disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship. The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. Go to <http://www.deewr.gov.au/tpdh/Pages/home.aspx>.

### **Further Sources of Information**

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.



## Contacts

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](http://www.ibsa.org.au)  
Email: [reception@ibsa.org.au](mailto: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  
Ph: +61 3 9832 8100  
Fax: +61 3 9832 8198  
Email: [sales@tvetaustralia.com.au](mailto:sales@tvetaustralia.com.au)  
Web: [www.tvetaustralia.com.au](http://www.tvetaustralia.com.au)

For information on the TAE10 Training and  
Education Training Package contact:

Innovation & Business Skills Australia  
Telephone: (03) 9815 7000  
Facsimile: (03) 9815 7001  
Email: [virtual@ibsa.org.au](mailto:virtual@ibsa.org.au)  
Web: [www.ibsa.org.au](http://www.ibsa.org.au)

## General Resources

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

AQF Implementation Handbook, fourth edition. Australian Qualifications Framework Advisory Board [www.aqf.edu.au](http://www.aqf.edu.au).

Australian Quality Training Framework (AQTF) - for information and resources go to [www.training.com.au](http://www.training.com.au).

AQTF Essential Conditions and Standards. Training organisations must meet these standards in order to deliver and assess nationally recognised training and issue nationally recognised qualifications.

AQTF 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 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.

TAE10 Training and Education 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](http://www.ntis.gov.au)).

Training Package Development Handbook can be downloaded from [www.deewr.gov.au](http://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](http://www.deewr.gov.au). Go to [www.resourcegenerator.gov.au](http://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 that deliver open employment services for people with a disability.

PO Box 5198

Alphington VIC 3078

Tel: 03 9411 4033

Fax: 03 9411 4053

Email: [info@acenational.org.au](mailto:info@acenational.org.au)

Website: [www.acenational.org.au](http://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](http://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](mailto:aad@aad.org.au)  
Website: [www.aad.org.au](http://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](mailto:office@afdo.org.au)  
Website: [www.afdo.org.au](http://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](mailto:bca@bca.org.au)  
Website: [www.bca.org.au](http://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](mailto: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](mailto:caa@carersaustralia.com.au)  
Website: [www.carersaustralia.com.au](http://www.carersaustralia.com.au)

### **Commonwealth Disability Services Program Contacts**

[www.facs.gov.au](http://www.facs.gov.au) or by telephone:  
New South Wales/Australian Capital Territory: 1300 653 227  
Northern Territory: 08 8936 6366  
Queensland: 07 3004 4712  
South Australia: 08 8400 2100  
Tasmania: 03 6211 9300  
Victoria: 03 8626 1109  
Western Australia: 08 9229 1500

### **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](mailto:info@deafnessforum.org.au)  
Website: [www.deafnessforum.org.au](http://www.deafnessforum.org.au)  
Website: [www.hearingawareness.org.au](http://www.hearingawareness.org.au)

### **Mental Health Foundation Australia**

270 Church St  
Richmond VIC 3121  
Tel: 03 9427 0407  
Fax: 03 9427 1294  
Email: [admin@mhfa.org.au](mailto:admin@mhfa.org.au)  
Website: [www.mhfa.org.au](http://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](mailto:ncid@dice.org.au)  
Website: [www.dice.org.au](http://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](http://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](mailto:pdca@pdca.org.au)  
Website: [www.pdca.org.au](http://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](mailto:info@sane.org)  
Email: [helpline@sane.org](mailto:helpline@sane.org)  
Website: [www.sane.org](http://www.sane.org)

**SAI Global**

Standards Australia publications distributor.  
Tel: 131 242  
Fax: 1300 65 49 49  
Email: [sales@sai-global.com](mailto:sales@sai-global.com)  
Website: [www.saiglobal.com](http://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](mailto: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](mailto:wwda@ozemail.com.au)  
Website: [www.wwda.org.au](http://www.wwda.org.au)

## Competency Standards

### What is Competency?

The broad concept of industry competency concerns the ability to perform particular tasks and duties to the standard of performance expected in the workplace. Competency requires the application of specified skills, knowledge and attitudes relevant to effective participation in an industry, industry sector or enterprise.

Competency covers all aspects of workplace performance and involves performing individual tasks; managing a range of different tasks; responding to contingencies or breakdowns; and, dealing with the responsibilities of the workplace, including working with others. Workplace competency requires the ability to apply relevant skills, knowledge and attitudes consistently over time and in the required workplace situations and environments. In line with this concept of competency Training Packages focus on what is expected of a competent individual in the workplace as an outcome of learning, rather than focussing on the learning process itself.

Competency standards in Training Packages are determined by industry to meet identified industry skill needs. Competency standards are made up of a number of units of competency each of which describes a key function or role in a particular job function or occupation. Each unit of competency within a Training Package is linked to one or more AQF qualifications.

### Contextualisation of Units of Competency by RTOs

Registered Training Organisations (RTOs) may contextualise units of competency in this endorsed Training Package to reflect required local outcomes. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.

Any contextualisation of units of competency in this Training Package must be within the bounds of the following advice:

- RTOs must not remove or add to the number and content of elements and performance criteria.
- RTOs can include specific industry terminology in the range statement.
- Any amendments and additions to the range statement made by RTOs must not diminish the breadth of application of the competency, or reduce its portability.
- RTOs may add detail to the evidence guide in areas such as the critical aspects of evidence or required resources and infrastructure—but only where these expand the breadth of the competency and do not limit its use.

## Components of Units of Competency

The components of units of competency are summarised below, in the order in which they appear in each unit of competency.

### Unit Title

The unit title is a succinct statement of the outcome of the unit of competency. Each unit of competency title is unique, both within and across Training Packages.

### Unit Descriptor

The unit descriptor broadly communicates the content of the unit of competency and the skill area it addresses. Where units of competency have been contextualised from units of competency from other endorsed Training Packages, summary information is provided. There may also be a brief second paragraph that describes its relationship with other units of competency, and any licensing requirements.

### Employability Skills

This sub-section contains a statement that the unit contains Employability skills.

### Pre-requisite Units (optional)

If there are any units of competency that must be completed before the unit, these will be listed.

### Application of the Unit

This sub-section fleshes out the unit of competency's scope, purpose and operation in different contexts, for example, by showing how it applies in the workplace.

### Competency Field (Optional)

The competency field either reflects the way the units of competency are categorised in the Training Package or denotes the industry sector, specialisation or function. It is an optional component of the unit of competency.

### Sector (optional)

The industry sector is a further categorisation of the competency field and identifies the next classification, for example an elective or supervision field.

### Elements of Competency

The elements of competency are the basic building blocks of the unit of competency. They describe in terms of outcomes the significant functions and tasks that make up the competency.



## Performance Criteria

The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge that enables competent performance. They are usually written in passive voice. Critical terms or phrases may be written in bold italics and then defined in range statement, in the order of their appearance in the performance criteria.

## Required Skills and Knowledge

The essential skills and knowledge are either identified separately or combined. Knowledge identifies what a person needs to know to perform the work in an informed and effective manner. Skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

## Range Statement

The range statement provides a context for the unit of competency, describing essential operating conditions that may be present with training and assessment, depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. As applicable, the meanings of key terms used in the performance criteria will also be explained in the range statement.

## Evidence Guide

The evidence guide is critical in assessment as it provides information to the Registered Training Organisation (RTO) and assessor about how the described competency may be demonstrated. The evidence guide does this by providing a range of evidence for the assessor to make determinations, and by providing the assessment context. The evidence guide describes:

- conditions under which competency must be assessed including variables such as the assessment environment or necessary equipment;
- relationships with the assessment of any other units of competency;
- suitable methodologies for conducting assessment including the potential for workplace simulation;
- resource implications, for example access to particular equipment, infrastructure or situations;
- how consistency in performance can be assessed over time, various contexts and with a range of evidence; and
- the required underpinning knowledge and skills

## Employability Skills in Units of Competency

The detail and application of Employability Skills facets will vary according to the job-role requirements of each industry. In developing Training Packages, industry stakeholders are consulted to identify appropriate facets of Employability Skills which are incorporated into the relevant units of competency and qualifications.

Employability Skills are not a discrete requirement contained in units of competency (as was the case with Key Competencies). Employability Skills are specifically expressed in the context of the work outcomes described in units of competency and will appear in elements, performance criteria, range statements and evidence guides. As a result, users of Training Packages are required to review the entire unit of competency in order to accurately determine Employability Skills requirements.

## How Employability Skills relate to the Key Competencies

The eight nationally agreed Employability Skills now replace the seven Key Competencies in Training Packages. Trainers and assessors who have used Training Packages prior to the introduction of Employability Skills may find the following comparison useful.

Employability Skills	Key Competencies
Communication	Communicating ideas and information
Teamwork	Working with others and in teams
Problem solving	Solving problems Using mathematical ideas and techniques
Initiative and enterprise	
Planning and organising	Collecting, analysing and organising information Planning and organising activities
Self-management	
Learning	
Technology	Using technology

When analysing the above table it is important to consider the relationship and natural overlap of Employability Skills. For example, using technology may involve communication skills and combine the understanding of mathematical concepts.

## Explicitly embedding Employability Skills in units of competency

This 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 must be both explicit and embedded within units of competency. This means that Employability Skills will be:

- 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 Packages users to identify accurately the performance requirements of each unit with regards to Employability Skills.

This Training Package also seeks to ensure that Employability Skills are well-defined and written into units of competency so that they are apparent, clear and can be delivered and assessed as an essential component of unit work outcomes.

### Examples from this Training Package of employability skills embedded within unit components

Unit component	Example of embedded employability skill
Unit title	Work and communicate effectively in an IT environment
Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work and communicate effectively within organisational policies and governance arrangements using information technology (IT) systems, equipment and software.
Element	Use positive and varied communication strategies with ICT clients
Performance criteria	<b><i>Respond appropriately</i></b> to <b><i>client</i></b> and colleague requirements and identify options
Range Statement	<ul style="list-style-type: none"> <li>• <b><i>Respond appropriately</i></b> may include: <ul style="list-style-type: none"> <li>• answering enquiries promptly and appropriately</li> <li>• discussing, agreeing and recording supply arrangements with client</li> <li>• recording details in enterprise system</li> <li>• using appropriate questioning and active listening techniques to understand client needs and determine support requirements</li> </ul> </li> </ul>

Unit component	Example of embedded employability skill
	<ul style="list-style-type: none"> <li>• using clear, simple and easy to understand language</li> <li>• ensuring responses are comprehensive.</li> </ul>
<b>Required Skills and Knowledge</b>	<ul style="list-style-type: none"> <li>• communication skills to:               <ul style="list-style-type: none"> <li>• clarify the needs of customers</li> <li>• deliver required level and quality of customer service</li> <li>• relate to people from diverse backgrounds and people with diverse abilities</li> <li>• request advice, receive feedback and work with a team</li> </ul> </li> <li>• knowledge:               <ul style="list-style-type: none"> <li>• current industry-accepted hardware and software products, with broad knowledge of features and capabilities</li> </ul> </li> </ul>
<b>Evidence Guide</b>	Evidence of the ability to: <ul style="list-style-type: none"> <li>• process internal and external requests according to organisational policies and requirements</li> <li>• respond promptly to client enquiries and requests from colleagues.</li> </ul>

### **Employability Skills Summaries and units of competency**

An Employability Skills Summary exists for each qualification. Summaries include broad advice on industry expectations with regard to Employability Skills at the qualification level. Summaries should be used by trainers and assessors to assist in identifying the Employability Skills requirements contained within units of competency.

### **Competency Standards - Industry Contextualisation**

As indicated elsewhere, RTOs may contextualise units of competency imported from other Training Packages to reflect outcomes relevant to the ICA11 Information and Communications Technology Training Package industry.

The units from the Training Packages detailed above have been imported into these qualifications to support those units which address specific aspects of the ICT industry, such as computer networking and security, project management, small business needs and customer service.

Using 'BSBSUS501A Develop workplace policy and procedures for sustainability' as an example, RTOs could add the development of policies and procedures in sustainability while formulating planning and design specifications to ICT projects.

## 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 qualifications are recommended as most suitable for a VETiS program:

- Certificate II in Information, Digital Media and Technology
- Certificate III in Information, Digital Media and Technology

The AQTF 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 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 for Education, Early Childhood Development and Youth Affairs (MCEEDYA) 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 MCEEDYA 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 form 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 MCEEDYA 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:

1. Work placements that are long enough for real learning to take place.

2. Systematic analysis of the training capacity of the workplace, to see what it can realistically supply.
3. 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.
4. Employer involvement in student selection for work placements.
5. The presence of a trained program coordinator, able to liaise between the school and the firm and troubleshoot when problems occur.
6. The use of qualified, highly competent workers as workplace trainers or mentors.
7. Regular face-to-face contact between the coordinators and employers and in-firm supervisors.
8. Monitoring of the students on the job by the program coordinator.
9. 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.
10. Deliberate efforts by schools to relate what has been learned at work to students' school-based learning.<sup>1</sup>

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.

1. That the RTO assumes responsibility for finding placements and validating the arrangements.
2. That the workplace has the appropriate resources, tools and staff to conduct the placement, with compliance with any legislative requirements.
3. That there be regular validation by the RTO that the student and assessor, where relevant, are operating according to RTO AQTF standards.



4. That a student on work placement must be covered by injury insurance.
5. That there is a formal contract setting out each party's responsibilities and obligations.
6. 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').
7. 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).
8. 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.
9. That the training be directly related to achievement of competence while recognising the likely acquisition of other skills and knowledge.
10. That where assessment occurs it be clearly related to a unit of competency relevant to the work placement.
11. 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.
12. 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.
13. 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 - ICA11 Acronyms

There are a significant number of acronyms in ICA11.

The list below details those where the full term has been provided and others where it has not. IBSA's usual approach is to write the term out in full in first mention in a unit with acronym following. Next mentions in unit are then by acronym only.

<b>ICA11 Acronyms</b>	
AutoVirt	automated virtualisation
AutoMove	Windows service application
AAA	authentication, authorisation and accounting
ACL	access control list

<b>ICA11 Acronyms</b>	
ACSCE	Australian Computer Society Code of Ethics
ADSL	asymmetric digital subscriber line
AES	advanced encryption standard
API	application programming interface
APIPA	automatic private IP addressing
ARIS	architecture of integrated information systems
AS	active server
ASP	active server pages application service providers
AV	audiovisual
AVG	product name
BEA	building environmental assessment
BSD	Berkeley Software Distribution
BSI	business systems integration
CASE	computer-aided software engineering
CGI	common gateway interface
CHAP	challenge handshake authentication protocol
CLI	calling line identification
CMOS	complementary metal oxide semiconductor
COBOL	Common Business-Oriented Language
COM	component object model
CORBA	common object request broker architecture
CPU	central processing unit
CRM	customer relationship management

<b>ICA11 Acronyms</b>	
CSS	cascading style sheet
DAL	data-access layer
DAO	data-access object
DAS	direct attached storage
DBMS	database management system
DCOM	distributed component object model
DES	data encryption standard
DHCP	dynamic host configuration protocol
DHTML	dynamic hypertext markup language
DMZ	demilitarised zone
DNS	domain name system
DOM	document object model
DSL	digital subscriber line
DSMS	data stream management system
DSN	data source name
DTD	document type definition
DXdiag	DirectX Diagnostic Tool
EAN.UCC	European Article Numbering Uniform Code Council
EAP	extensible authentication protocol
EEO	equal employment opportunity
EICAR	European Institute for Computer Antivirus Research
ER	entity relationship
ERP	enterprise resource planning
ext	extended file system

<b>ICA11 Acronyms</b>	
FAT	file allocation table
FDD	floppy disk drive
FTP	file transfer protocol
FTTX	fibre to the 'x'
GNU	GNUs Not Unix
GnuPG	GNU Privacy Guard
GPO	group policy object (Windows)
GPRS	general packet radio service
GSSAPI	Generic Security Services Application Program Interface
GUI	graphical user interface
HDD	hard disk drive
HDLC	high level data link control
HDMI	high <b>definition</b> multimedia interface
HFS+	hierarchical file system +
HSDPA	high-speed downlink packet access
HDSL	high-speed digital subscriber line
HTML	hypertext markup language
HTTP	hypertext transfer protocol
HTTPS	hypertext transfer protocol secure
IaaS	infrastructure as a service
IDE	integrated development environment
IDS	intrusion detection system
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers

<b>ICA11 Acronyms</b>	
IEF	imaging energy filter
IETF	Internet Engineering Task Force
IM	information management
IMAP	internet message access protocol
IOS	internetwork operating system
IP	internet protocol
IPS	intrusion prevention system
IPSec	internet protocol security
ISDN	integrated services digital network
IRM	Institute of Risk Management
ISDN	integrated services digital network
Isee	integrated software engineering environment
ISA	internet security and acceleration
ISO	International Organization for Standardization
ISP	internet service provider
ITIL	information technology infrastructure library
ITU	International Telecommunications Union
iSCSI	internet small computer systems interface
JSP	Java server pages
KVM	Kernel Virtual Machine
LAN	local area network
LEAP	lightweight extensible authentication protocol
LDAP	lightweight directory access protocol
L2TP	layer 2 tunnelling protocol

<b>ICA11 Acronyms</b>	
MD5	Message Digest Algorithm 5
MIME	multipurpose internet mail extensions
MPLS	multi-protocol label switching
msconfig	Microsoft Configuration Utility
MSIA	Microsoft Software Inventory Analyzer
mSQL	Mini SQL (mSQL)
MS SQL	Microsoft Structured Query Language
MySQL	Proprietary name
NAS	network-attached storage
NetBIOS	networked basic input/output system
NAT	network address translation
NDS	Novell Directory Services
NetBIOS	network basic input/output system
NIC	network interface card
NIS	network information system
NFA	non-deterministic finite automaton
NFS	network file system
NIC	network interface card
NOS	network operating system
NTFD	NTF-based data
NTFS	new technology file system
NTLM	NT LAN Manager
NTP	network time protocol
NTU	network terminating unit

<b>ICA11 Acronyms</b>	
ODBC	open database connection
ODC	open database connection
ODP	open directory project
OECD	Organisation for Economic Cooperation and Development
OIKOS	Organisation name, upper case
OLE	object linking and embedding
OS	operating system
OSI	open system interconnection
PAM	pluggable authentication modules
PAP	password authentication protocol
PATA	parallel advanced technology attachment
PC	personal computer
PCI	peripheral component interconnect
PCMCIA	Personal Computer Memory Card International Association
PDA	personal digital assistant
PGP	pretty good privacy
PHP	Perl hypertext pre-processor
PKI	public key infrastructure
PKM	personal knowledge management
PMBOK	Project Management Body of Knowledge
POP	post office protocol
POSIX NFA	portable operating system interface for Unix NFA
POST	power on self test
PPP	point-to-point protocol

<b>ICA11 Acronyms</b>	
PPPoE	point-to-point protocol over ethernet
PPTP	point-to-point tunnelling protocol
PRINCE2	Projects IN Controlled Environments
PROTOS	Process and Tools (Team)
PWB	ProcessWise Workbench
PSTN	public switched telephone network
QOS	quality of service
RADIUS	<i>remote authentication dial-in user service</i>
RAID	redundant array of inexpensive/independent disks
RAM	random access memory
RDBMS	relational database management system
RFID	radio frequency identification
RHDS	Red Hat Directory Services
RHN	red hat network
RIPv1	routing information protocol
RIS	remote installation services
RRAS	routing and remote access services
RSA	Rivest, Shamir and Adelman
RSTP	rapid spanning tree protocol
SAN	storage area network
SATA	serial advanced technology attachment
SCSI	small computer system interface
SDLC	system development life cycle
SDM	security device manager



<b>ICA11 Acronyms</b>	
SGML	standard generalised markup language
SHTTP	secure hypertext transfer protocol
SE Linux	security enhanced Linux
SEM	search engine marketing
SEO	search engine optimisation
SHA	secure hash algorithm
SIP	session initiation protocol
SLA	service level agreement
SMB	server messages block
SME	small or medium enterprise
SMIME	secure or multipurpose internet mail extensions
SMTP	simple mail transfer protocol
SNMP	simple network management protocol
SOA	service-oriented architecture
SOAP	simple object access protocol
SOCCA	Specification of Coordinated and Cooperative Activities
SOHO	small office home office
SPNEGO	simple and protected GSSAPI negotiation
SQL	structured query language
SQLS	structured query language server
SSH	secure shell
SSID	service set identifier
SSL	secure socket layer
SSPI	Security Support Provider Interface

<b>ICA11 Acronyms</b>	
SSTP	secure socket tunnelling protocol
STP	spanning tree protocol
sxw (lower case)	Sun Xml Writer
TCP	transmission control protocol
TCP/IP	transmission control protocol or internet protocol
TLS	transport layer security
TSIG	Transaction Signature
UAC	User Account Control
UDDI	universal description, discovery and integration
UML	unified modelling language
UPS	uninterruptible power supply
Unix OS	Unix operating system
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UPS	uninterruptible power supply
URL	uniform resource locator
USB	universal serial bus
VB	Visual Basic
VBScript	Visual Basic Script (proprietary name)
VLAN	virtual local area network
VLAN SPAN	virtual local area network switched port analyser
VoIP	voice over internet protocol
VPN	virtual private network
VRML	virtual reality modelling language
VSFTP	very secure FTP

<b>ICA11 Acronyms</b>	
VSPAN	VLAN SPAN
W3C	World Wide Web Consortium
WAI	web accessibility initiative
WAN	wide area network
WDS	wireless distribution system
WEP	wired equivalent privacy
wi-fi	wireless system
Wi-Fi Alliance	nonprofit international association
WINS	Windows Internet Naming Service
WiMAX	worldwide interoperability for microwave access
WLANs	wireless local area networks
WPA	wi-fi protected access
WPA2	wi-fi protected access 2
WSUS	windows server update services
WWAN	wireless wide area network
XHTML	eXtensible hypertext markup language
XLT	XML representation of lexicons and terminologies
XML	eXtensible markup language
XSLT	eXtensible stylesheet language transformations
YUM	Yellow Dog Update Manager

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<sup>1</sup> OECD, 2000, *From Initial Education to Working Life: Making Transitions Work*. Organisation for Economic Cooperation and Development, Paris.

