Australian Government

Department of Education, Employment and Workplace Relations

ICPPR495A Set up and use complex colour management for production

Revision Number: 1

ISC INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICPPR495A Set up and use complex colour management for production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to create profiles and finger-print presses to obtain the best match across colour devices.
	No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

Application of the unit	This unit requires the individual to undertake complex colour management techniques to customise a workflow to their particular workplace.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	ICPPR387A	Use colour management for production

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Finger-print press	1.1. Suitable *test charts* are selected or produced 1.2. *Press* is optimised to *workplace standard*, in collaboration with the press operator 1.3. Test chart is printed with standard ink densities on any one of a range of stocks
2. Measure press test charts	2.1. *Colour measurement devices* are calibrated and used to measure printed test charts 2.2. *Multiple charts* are measured and results recorded 2.3. *Software* is used to average multiple measurements
3. Create and use custom press profiles	3.1. Appropriate reference file is selected to match the printed chart 3.2. Profiling software is used to create an output press profile from the averaged measurement file and profile is tested and edited if required 3.3. Profile is inserted into the *colour workflow*
4. Create and use digital device profiles	4.1. Suitable test charts are selected 4.2. The device is calibrated and the test chart is output or digitised 4.3. The test chart is measured using a colour measurement device 4.4. An appropriate reference file is selected to match the test chart 4.5. Software is used to create a profile 4.6. The device profile is inserted into the *colour workflow*
5. Maintain custom colour management workflow	5.1. Printing conditions are monitored and recorded to ensure adherence to workplace standard 5.2. *Digital devices* are regularly calibrated

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

Required skills
• occupational health and safety (OHS) skills for using correct ergonomics when operating the computer
• communication skills needed to communicate ideas and information by printing a test chart on a press
• planning, analysing and organising skillsto determine printing conditions and colour management requirements before generating a proof
• teamwork skills for maintaining the production process in association with others and working independently with responsibility for others
• numeracy skills used in relation to densitometry, spectrophotometry and colour profiles
• problem-solving skills used in diagnosing and correcting colour problems
• technical skills needed for utilising software and hardware correctly when creating a profile

Required knowledge
• OHS issues to be considered when managing colour for digital production
• importance of bringing a device into a known state
• how often to calibrate devices
• what change of condition would result in the need for re-calibration
• colour measurement devices and usage
• types of proprietary software used for colour measurement
• comparison of test charts, their advantages and disadvantages
• process of determining grey balance and white points
• colour profiles and their use
• effect colour profiles have on output
• difference between input, output and display profiles
• colour management systems
• components of a colour management system
• components of a colour-managed workflow
• red, green blue (RGB) versus cyan, magenta, yellow, black (CMYK) versus mixed colour workflows
• how to implement colour management on a system
• workplace and international printing standards
• effects different substrates have on colour reproduction for proofing and final production
• how dot gain effects colour
• under colour removal (UCR) and grey component replacement (GCR)

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • create custom device profiles in a digital production workflow to enhance the match across proofs, monitors and final products • find and use information relevant to the task from a variety of information sources • create three custom device profiles that have been used within a colour workflow • produce a final printed product from the colour workflow.
Context of and specific resources for assessment	Assessment must ensure: • that conditions are typical ambient conditions found in the workplace • access to relevant facilities, equipment and materials used for colour management production, such as printing presses, raster image processors (RIPs) with colour management features, profiling software, colour output devices, densitometers and spectrometers • evidence of colour management system maintenance procedures • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • a portfolio that demonstrates all criteria have been met • practical demonstration by the candidate in obtaining the best match across colour devices.
Guidance information for assessment	Holistic assessment with other digital production units relevant to the workplace and job role is recommended, for example:

EVIDENCE GUIDE

	• digital production or pre-press units that require the application of colour. For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance.

Range Statement

RANGE STATEMENT The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Test charts may include:	• IT8 • European colour initiative (ECI) • printing test charts (TC) • proprietary or custom made charts.
Press may include:	• offset • web • flexography • digital.
Workplace standards may include:	• international ISO printing standards or internal workplace standards.

Colour measurement devices may include:	• densitometers or spectrophotometers, including strip reader style devices, such as:
	  • Gretag
	  • Macbeth
	  • Xwrite.

Software may include:	• a range of industry colour applications including:
	  • colour management software, e.g. Colorsync
	  • profile creating software
	  • scanner profiling software, e.g. Colortone Pro and Scan Open
	  • densitometry and spectrophotometry software.

Colour workflow may include:	• software applications, e.g. InDesign and Photoshop • printer • monitors • proofers • raster image processors (RIPs) • computer to plate CTP systems • scanners • digital cameras • digital presses • wide format printers.

RANGE STATEMENT	

Digital devices may include:	• input, output and display devices, such as:
	   • monitors
	   • printers, proofers and wide format
	   • scanners and digital cameras.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Printing