



Australian Government

Department of Education, Employment and Workplace Relations

ICPKN311C Apply knowledge of the graphic pre-press sector

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the graphic pre-press sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific pre-press areas. It facilitates technical communication and the ability to work as a team member.
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Application of the Unit

Application of the unit	This unit covers preparation of a person working in or dealing with the graphic pre-press sector of the printing industry. Workers with the ICP30205 Certificate III in Printing and Graphic Arts (Graphic Pre-press) are likely to acquire most of this knowledge in the production units.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

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

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1. Printing industry terminology and vocabulary are used correctly and accurately 1.2. New technology and new work processes are monitored and implemented when required 1.3. Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1. Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace 2.2. The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply detailed knowledge of pre-press processes	3.1. The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and applied where possible in the workplace 3.2. Different types of images (line, half-tone), digital and their use are assessed to identify most appropriate image for the given job 3.3. Different output settings eg screen rulings and angles, shapes, are researched and how they affect final product is evaluated 3.4. The different types of output required for different printing processes are researched and evaluated for different jobs 3.5. Different output devices eg film setters, plate setters, analogue proofs, digital proofs, are researched and evaluated for different jobs
4. Apply knowledge of printing processes	4.1. Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital/electronic printing are appraised to inform decisions made for different jobs 4.2. The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs 4.3. The capabilities and limitations of each process are

ELEMENT	PERFORMANCE CRITERIA
	reviewed for different jobs
5. Apply knowledge of converting and finishing processes	<p>5.1. Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening, are considered for different jobs</p> <p>5.2. The types of processes are appraised to inform decisions made for different jobs</p>
6. Apply knowledge of substrates and inks	<p>6.1. The range of substrates used for each printing process are researched and evaluated for different jobs</p> <p>6.2. The relationship of different paper sizes is considered for different jobs</p> <p>6.3. Different weights and callipers of substrates and how they affect pre-press operations are researched for different jobs</p> <p>6.4. Paper grain and how it affects pre-press, printing and finishing operations are researched for different jobs</p> <p>6.5. Different properties of ink such as drying properties, fastness, gloss, and how they affect pre-press operations are researched for different jobs</p>
7. Apply detailed knowledge of pre-press requirements for printing and finishing processes	<p>7.1. Designs that are appropriate for different printing processes are explored according to different jobs</p> <p>7.2. Dot gain and trapping requirements for different printing processes, inks and substrates are evaluated for different jobs</p> <p>7.3. Use and positioning of trimming and folding marks and how these are affected by different substrates are evaluated for different jobs</p> <p>7.4. Criteria for evaluating suitability of pre-press outputs for printing processes are explored and implemented</p> <p>7.5. Criteria for producing folding impositions are evaluated for different jobs</p>
8. Apply knowledge of colour theory	<p>8.1. Colour theory of additive colours (light), RGB, is used to inform pre-press and/or design decisions</p> <p>8.2. Colour theory of subtractive colours (pigments), CMYK, is used to inform pre-press and/or design decisions</p> <p>8.3. Relationship between ranges of visual colour RGB and CMYK is used to inform pre-press and/or design decisions</p> <p>8.4. Relationship between hue, greyness and substrate for tone and colour correction is used to inform pre-press</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>and/or design decisions</p> <p>8.5. Colour matching conditions and colour matching systems are used to inform pre-press and/or design decisions</p> <p>8.6. Procedures that ensure effective colour management are implemented</p>
<p>9. Apply basic knowledge of costs of production</p>	<p>9.1. The main cost elements (fixed, capital and variable) in pre-press production are considered during different jobs</p> <p>9.2. The information required to accurately cost jobs and the means of collecting it (manual and computerised) are considered and implemented, where required, during different jobs</p> <p>9.3. Ways of minimising use of materials without affecting the quality of output are considered and implemented, where required, during different jobs</p> <p>9.4. Ways of maximising efficiency of capital and human resources are considered and implemented, where required, during different jobs</p>
<p>10. Apply basic knowledge of production management requirements and systems</p>	<p>10.1. The types of information that need to be exchanged between different stages of production to facilitate production efficiency are identified and implementation strategies developed</p> <p>10.2. Systems (manual and computerised) that can be used to exchange information are considered and implemented, where required, during different jobs</p> <p>10.3. The basic principles of efficient production management are considered and implemented, where required, during different jobs</p> <p>10.4. The principles of effective quality management are considered and implemented, where required, during different jobs</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by accurately using correct printing industry terminology and vocabulary
- collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and/or design decisions
- planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- teamwork when implementing procedures that ensure effective colour management
- mathematical ideas and techniques by considering the information required to accurately cost jobs
- problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- use of technology by researching and evaluating different output devices eg film setters, plate setters, analogue proofs and digital proofs, for different jobs

Required knowledge

- unit underpins the Certificate III level and higher pre-press units.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • assessor must be satisfied that sufficient knowledge and understanding of pre-press and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • successful demonstration of groups of pre-press units at Certificate III level or higher⁴ • evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example units packaged in a Certificate III or higher qualification.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Level of knowledge may include:

- knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units	