

<b>Title</b>	<b>Demonstrate industry knowledge for digital printing</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	People credited with this unit standard are able to demonstrate knowledge of: requirements for digital printing; substrates and inks and toners used for digital printing; quality control procedures in digital printing; and industry terms, fonts, file formats and colour theory applicable to digital printing; in accordance with workplace practices.
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<b>Classification</b>	Printing > Digital Processes for Print
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<b>Available grade</b>	Achieved
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### Explanatory notes

- 1 Candidates must follow any applicable and recognised codes of practice, and documented workplace health, safety, and environmental procedures for personal, product, workplace health, safety and environmental matters, and the obligations required under current law including the Health and Safety in Employment Act 1992, Resource Management Act 1991, Privacy Act 1993, Copyright Act 1994, and their subsequent amendments.
- 2 **Range**  
Assessment must involve all of the following digital printing processes – toner-based systems, ink jet (wide format, flatbed, reel-fed, sheet-fed), dye sublimation, solid ink, electroink.
- 3 **Definitions**  
*Job requirements* refer to specific requirements for the job at hand. These requirements may or may not be covered in the workplace job documentation and may include special instructions or quality requirements expected by the customer and/or the production standards of the workplace and/or company;  
*Workplace practices* refer to the documented procedures set down for the machinery and/or workplace or classroom situation. These include procedures for the use of machinery and equipment, as well as product specifications and job instructions which clarify how to meet the job requirements.

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### Outcomes and evidence requirements

#### Outcome 1

Demonstrate knowledge of requirements for digital printing in accordance with workplace practices.

**Evidence requirements**

- 1.1 The transferral of electronic file images onto a substrate during the different digital print processes is described.
- 1.2 Typical products output by each digital printing process are described, and the reasons why the particular process is used are explained.
- 1.3 Digital printing processes are described in terms of their advantages and disadvantages.
- 1.4 The purposes of Raster Image Processors (RIPs) are described in terms of digital printing.
- 1.5 Digital printing is described in terms of its use for variable data.

**Outcome 2**

Demonstrate knowledge of substrates used for digital printing in accordance with workplace practices.

Range substrates may include but are not limited to – papers, cards, vinyls, transparent substrates, self-adhesives, photographic, fabrics, magnetics, substrates used for artistic purposes; interior and exterior substrates; evidence is required for a minimum of three substrates.

**Evidence requirements**

- 2.1 The characteristics of a range of substrates available for each digital printing process are described.

Range characteristics of substrates may include but are not limited to – grammage, calliper, texture, smoothness, coatings, grain direction, colour, finish, colour fastness, waterproofness, scuff; evidence is required for a minimum of four characteristics.

- 2.2 Factors affecting the choice of substrate are explained in relation to job requirements for each digital printing process.

- 2.3 Workplace conditions are described in terms of their effects on the storage and handling of substrates.

Range includes but is not limited to – humidity, static, airflow, temperature, dust, light.

**Outcome 3**

Demonstrate knowledge of inks and toners used for digital printing in accordance with workplace practices.

**Evidence requirements**

- 3.1 Inks and toners used for each digital printing process are described in terms of their characteristics.  
Range characteristics of inks and toners may include but are not limited to – environmental, finish, colour fastness, waterproofness, scuff, cracking, drying;  
evidence is required of a minimum of four characteristics.
- 3.2 Factors affecting the choice of inks and toners are explained in relation to digital printing processes and job requirements.

**Outcome 4**

Demonstrate understanding of quality control procedures in digital printing.

**Evidence requirements**

- 4.1 Importance of maintaining high quality digital print product is explained in terms of the checking processes used in the candidate's workplace.  
Range may include but is not limited to – job documentation, data audit, sampling, matching, sign-off, quality checking;  
evidence is required for a minimum of three checking processes.
- 4.2 Quality management and control practices used for digital printing in the candidate's workplace are described.
- 4.3 Quality control problems of digital printing are identified and solutions are suggested in accordance with workplace practices.

**Outcome 5**

Demonstrate knowledge of industry terms, fonts and file formats applicable to digital printing in accordance with workplace practices.

**Evidence requirements**

- 5.1 Industry terms applicable to digital printing are explained.
- 5.2 File formats are described in terms of their use in digital printing.  
Range includes but is not limited to – Tagged Image File Format (TIFF), Joint Photographic Experts Group (JPEG), Portable Document Format (PDF), Encapsulated PostScript (EPS), Bitmap (BMP), Adobe Illustrator (AI).
- 5.3 Differences in fonts are identified and are described, and their appropriate use is explained.  
Range includes but is not limited to – TrueType, PostScript, OpenType, Bitmap (BMP), serif, sans serif.

## Outcome 6

Demonstrate knowledge of colour theory applicable to digital printing in accordance with workplace practices.

### Evidence requirements

- 6.1 Colour terms applicable to digital printing are explained.
- Range includes but is not limited to – lightfast, hue, brightness, saturation, pantone or similar colour system, colour profiles.
- 6.2 Optimal viewing conditions are described in terms of their importance in the use of colour and the recognition of colour casts.
- 6.3 Resolution and colour models of images are defined, and their appropriate use is explained, in relation to each of the digital printing processes, and job requirements.

<b>Planned review date</b>	31 December 2015
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### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 January 2012	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0005
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

### Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact [Competenz info@competenz.org.nz](mailto:Competenz info@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.