

Title	Demonstrate industry knowledge for digital printing		
Level	3	Credits	15

Purpose	People credited with this unit standard are able to demonstrate knowledge of: requirements; substrates, inks and toners, quality control procedures; and industry terms, fonts, file formats and colour theory applicable to digital printing.
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Classification	Printing > Digital Processes for Print
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

- Copyright Act 1994;
- Health and Safety at Work Act 2015;
- Privacy Act 2020;
- Resource Management Act 1991.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

- 2 Definitions

Job requirements refer to specific requirements for the print 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 print workplace and/or organisation.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the print sector.

- 3 Range

Digital printing processes must include – toner-based systems, ink jet (wide format, flatbed, reel-fed, sheet-fed), dye sublimation, solid ink, electroink.

4 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of requirements for digital printing.

Performance criteria

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

Outcome 2

Demonstrate knowledge of substrates used for digital printing.

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

Performance criteria

- 2.1 Describe the characteristics of a range of substrates available for each digital printing process.

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 Explain factors affecting the choice of substrate in relation to job requirements for each digital printing process.

2.3 Describe workplace conditions 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.

Performance criteria

3.1 Describe inks and toners used for each digital printing process 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 Explain factors affecting the choice of inks and toners in relation to digital printing processes and job requirements.

Outcome 4

Demonstrate knowledge of quality control procedures in digital printing.

Performance criteria

4.1 Explain the importance of maintaining high quality digital print product in terms of the checking processes used in the 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 Describe quality management and control practices used for digital printing.

4.3 Identify quality control problems of digital printing and possible solutions.

Outcome 5

Demonstrate knowledge of industry terms, fonts and file formats applicable to digital printing.

Performance criteria

5.1 Explain industry terms applicable to digital printing.

5.2 Describe file formats 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 Identify and describe differences in fonts, and explain their appropriate use.

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.

Performance criteria

6.1 Explain colour terms applicable to digital printing.

Range includes but is not limited to – lightfast, hue, brightness, saturation, pantone or similar colour system, colour profiles.

6.2 Describe optimal viewing conditions in terms of their importance in the use of colour and the recognition of colour casts.

6.3 Define resolution and colour models of images, and explain their appropriate use, in relation to each of the digital printing processes, and job requirements.

Planned review date	31 December 2027
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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	31 December 2025
Review	2	30 March 2023	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.