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| Title | Set up and operate a CNC machine for engineering fabrication | | |
| Level | 3 | Credits | 3 |

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| Purpose | <p>This unit standard, intended for on-job assessment, is for people working in or training to work in engineering fabrication roles.</p> <p>People credited with this unit standard are able to set up and operate a CNC fabrication machine.</p> |
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| Classification | Mechanical Engineering > Engineering - Fabrication |
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| Available grade | Achieved |
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| Prerequisite | Unit 29650, <i>Demonstrate knowledge of the safe use of powered equipment in a mechanical engineering or fabrication workshop</i> , or demonstrate equivalent knowledge and skills. |
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Guidance Information

- 1 References
Health and Safety at Work Act 2015.
- 2 Definitions
CNC – Computer numerical control.
Workplace procedures – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Related unit standards
This unit standard is one of an introductory CNC machining set:
 - Unit 30473, *Demonstrate and apply knowledge of computerised manufacturing for engineering fabrication* (Level 2), an introductory unit standard that covers basic computer controlled fabrication machine knowledge and application to prepare candidates for employment.
 - Unit 30474, *Set up and operate a CNC machine for engineering fabrication* (Level 3), a unit standard that covers simple setting and operation of computer controlled fabrication machines.

Outcomes and performance criteria

Outcome 1

Set up a CNC machine to produce a fabrication component.

Performance criteria

- 1.1 Component processing instructions are confirmed in accordance with job requirements.
- Range examples are – quality checks, consumable and tooling replacement intervals, pre-fabrication checks, critical dimensions, quantities.
- 1.2 Criteria for component processing monitoring are established in accordance with job requirements.
- Range examples are – change of finish, quality, consistency, accuracy.
- 1.3 Programme is loaded in accordance with machine requirements and workplace procedures.
- 1.4 Machine is prepared in accordance with machine manufacturer's instructions or workplace procedures.
- 1.5 Work is positioned and secured in accordance with workplace procedures.
- 1.6 Workpiece reference zero position is assigned in accordance with workplace procedures.
- 1.7 Program is trial run in accordance with workplace procedures.

Outcome 2

Operate a CNC machine for fabrication.

Performance criteria

- 2.1 Workplace safety procedures are followed.
- Range examples are – use of personal protective equipment, checking of equipment for faults, use of extraction equipment.
- 2.2 First production piece is produced and checked in accordance with workplace procedures.
- 2.3 Machine operation is monitored and adjusted to meet processing monitoring criteria as required in accordance with workplace procedures.
- Range examples are – change of finish, quality, consistency, accuracy.

- 2.4 Job completion processes are followed in accordance with workplace procedures.

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| Planned review date | 31 December 2022 |
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Status information and last date for assessment for superseded versions

| Process | Version | Date | Last Date for Assessment |
|--------------|---------|----------------|--------------------------|
| Registration | 1 | 17 August 2017 | N/A |

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| 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 Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.