

Title	Demonstrate knowledge of efficient and effective workplace procedures in mechanical engineering or fabrication		
Level	2	Credits	3

Purpose	<p>This unit standard is for use in a mechanical engineering or fabrication environment and is one of a series of three unit standards for assessing efficient and effective processes with standards 29561 and 29562.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: the benefits of meeting customer needs, waste, workplace organisation, and time management in a mechanical engineering and fabrication workplace; and will be able to follow verbal and written instructions to carry out mechanical engineering or fabrication tasks efficiently and effectively.</p>
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Classification	Mechanical Engineering > Engineering Core Skills
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Available grade	Achieved
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Explanatory notes

1 Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.

Efficient and effective processes refers to processes that add value for customers with fewer resources through optimizing the flow of work, improving quality and reducing waste. This includes but is not limited to what is commonly referred to as Lean Manufacturing.

Eight wastes of lean refers to processes commonly recognised in reference texts for Lean Manufacturing that are carried out in the production of a component or supply of a service that do not add value to customers.

Workplace organisation refers to cleanliness, tidiness, organisation and layout of tools, parts, equipment, and space in the workplace.

Workplace procedures refers to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – 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.

2 Assessment information

Examples/evidence given must be within the context of mechanical engineering or fabrication and must meet applicable worksite procedures and accepted industry practice. Numerous reference texts and training manuals on lean/process

improvement are available and may be used; however no one textbook or source of information is envisaged.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of the benefits to a mechanical engineering or fabrication organisation of meeting customer needs.

Evidence requirements

1.1 The needs of external and internal customers are outlined.

Range customer needs – producing work on time, to specification, and within budget.

1.2 Benefits to an organisation of meeting customer needs are described.

Range examples of benefits to an organisation – loyal customers, business sustainability, higher staff morale.

Outcome 2

Demonstrate knowledge of waste in a mechanical engineering or fabrication workplace.

Evidence requirements

2.1 The eight wastes of lean are listed and briefly described.

2.2 Material use is optimised when marking out components.

Range examples of materials are - stock lengths of sectional metal, metal sheet or plate, billets, moulded material, cast material.

Outcome 3

Demonstrate knowledge of mechanical engineering and fabrication workplace organisation.

Evidence requirements

3.1 Good workplace organisation practices are identified and described in terms of how they eliminate or minimise waste and contribute to meeting customer needs.

Range examples of good workplace organisation practices - working tidily, cleaning up after completing work, putting tools away, working in a methodical and organised way, following instructions and procedures.
Evidence is required of a minimum of five examples, each eliminating or minimising a different form of waste.

Outcome 4

Demonstrate and apply knowledge of time management to carry out mechanical engineering or fabrication tasks efficiently and effectively.

Evidence requirements

- 4.1 The effect that lateness has on organisational efficiency and work teams is described.
- 4.2 The benefits of effective task planning and sequencing are described in terms of their contribution to meeting customer needs.
- 4.3 Given tasks are planned and sequenced to maximise efficiency and meet deadlines.

Outcome 5

Demonstrate the ability to understand and follow verbal and written instructions to carry out mechanical engineering or fabrication tasks efficiently and effectively.

Evidence requirements

- 5.1 Active listening techniques are described, and applied while receiving verbal instructions.
- 5.2 Written instructions are read and interpreted.
- 5.3 Task requirements are clarified by asking questions.
- 5.4 Feedback is given by candidate after receiving instructions to close the communication loop.
- 5.5 Tasks are carried out according to given instructions.

Planned review date	31 December 2021
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 July 2016	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>.

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.

Comments on this unit standard

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