

<b>Title</b>	<b>Demonstrate knowledge of engineering job planning and costing</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>3</b>

<b>Purpose</b>	<p>This unit standard, intended for off job assessment, is for engineering industry trainees.</p> <p>People credited with this unit standard are able to demonstrate knowledge of basic engineering job operations and planning; and costing and pricing.</p>
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<b>Classification</b>	Mechanical Engineering > Engineering Core Skills
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Definitions

*Cost* – amount the company pays to complete a specified job, includes overheads, labour and material.

*Estimate* – anticipated, but not promised price of a job.

*Overheads* – workshop running costs that have to be covered as part of job costing, such as; rent/lease, power, water, insurance, admin costs (secretary), non-productive company costs such as management, marketing and sales, machine purchase/depreciation/running costs, professional services (accountant, lawyer), advertising, holiday pay, staff costs, rework, vehicle running costs, rubbish disposal, compliance, ACC, bank costs (fees, interest and overdraft facilities), compliance costs, company tax.

*Price* – amount the client pays for a specified job.

*Quality* – standard required to meet specification and achieve fitness for purpose; such as dimensional accuracy, finish, minimum material specification.

*Quotation* – firm agreed price for a job.

*Specification* – plans and/or written detail that defines a job.

*Turnover* – amount of money received by a company in a period without allowing for costs of production.

#### 2 Scope

This unit standard is designed to give trainees in engineering trades an understanding of the overall planning and costing factors of running workshops and jobs in an engineering trade context.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of basic engineering job operations and planning.

#### Performance criteria

- 1.1 The stages involved in providing engineering services are explained for typical engineering workshops.
- Range examples of operations are – client liaison, verification of specification, pricing, client order, logging jobs in company system, job planning, job sheets, conducting work, quality checks, work handover, service, maintenance.
- 1.2 Stages in job planning for engineering work are explained.
- Range examples of planning stages are – specification review; identifying critical requirements, potential problems, and certification requirements; selecting process route and sequencing; determining labour and skill requirements, currency of skills; calculating material quantities (bill of materials) and costing; determining shop capacity; delivery timeframe.

### Outcome 2

Demonstrate knowledge of engineering job costing and pricing.

#### Performance criteria

- 2.1 The relationship between cost, price, profit, turnover, efficiency and overheads for engineering workshops is explained.
- 2.2 The purpose and use of the job specification is explained in relation to job costing and pricing.
- 2.3 Pricing factors are explained in terms of appropriate selection and use of pricing arrangements for different situations and requirements.
- Range examples of pricing arrangements are – quotation, estimate, hourly rate, standard times, standard process rates (such as: metre rates, tonnage rates).
- 2.4 Job efficiency considerations are compared to determine most economic processing options.
- Range examples of considerations are – machine time cost vs. time cycle; programming cost considerations for computer controlled machinery, outsourcing, technology and efficiency changes.

- 2.5 Implications of not meeting and exceeding specified product quality are explained in terms of potential cost to the company.

<b>Planned review date</b>	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

<b>Consent and Moderation Requirements (CMR) reference</b>	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](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.