

Title	Prepare estimates of engineering project costings		
Level	5	Credits	6

Purpose	People credited with this unit standard are able to: prepare a schedule of quantities; determine costing procedure; apply costing procedure; and compile a report on engineering project costing estimates.
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Classification	Engineering > Generic Engineering
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Available grade	Achieved
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Guidance Information

- 1 Definition
Company requirements include the policy, procedures, and methodologies of the company. They include requirements documented in company and site health and safety plans, quality assurance documents and contract work programmes.
- 2 This unit standard is for technician engineers and recognises the acquisition of a basic knowledge and the ability to apply that knowledge to simple and/or small scale engineering projects.
- 3 Cost estimates are required at various stages of a project. At all stages, the methods are similar, but the degree of detail and accuracy required increase as the project progresses.
- 4 Reference documents relevant to this unit standard include: Rawlinson and Co, *Rawlinson's New Zealand Construction Handbook* (Auckland, New Zealand, Raw/house Publishing, 2005); *Civil Engineering Standard Method of Measurement* (CESMM³) (3rd edition) (London: Institute of Civil Engineers, 1991). Note: CESMM³ was reprinted with corrections in 1992.
- 5 The following apply to the performance of all elements in this unit standard:
 - a all activities are to be completed and reported within agreed timeframes and delegated authority;
 - b all work practices must meet worksite's documented quality management requirements. This includes documentation of activities, events, assumptions, and decisions;
 - c all communications must be made in accordance with the organisation's documented procedures for content, recipient, timing, and method;
 - d all activities must comply with any policies, procedures, and requirements of the organisations involved; the ethical codes and standards relevant to professional bodies; and any relevant cultural, legislative and/or regulatory requirements, which may include but are not limited to: the Treaty of Waitangi, Health and Safety in

Employment Act 1992, Resource Management Act 1991, Building Act 2004, Copyright Act 1994, Contracts Enforcement Act 1956, and their subsequent amendments and regulations.

Outcomes and performance criteria

Outcome 1

Prepare a schedule of quantities.

Performance criteria

- 1.1 The project works are scheduled as a series of measurable items that allows the total project cost estimates to be determined.
- 1.2 The level of detail and tolerance required is determined for each stage of a project.
- Range preliminary estimates for feasibility report, developed estimates for design report, detailed estimates for funding requirements.

Outcome 2

Determine costing procedure.

Performance criteria

- 2.1 The procedure of applying unit costs to the schedule is selected to the appropriate level of detail and tolerance required for each stage of a project in accordance with company requirements and contract specifications.
- Range rough order costings (ROC) estimate, preliminary estimate, detailed estimate which includes contingencies, fluctuations.

Outcome 3

Apply costing procedure.

Performance criteria

- 3.1 Items are classified for ROC, preliminary estimates, and detailed estimates in accordance with company requirements.
- Range direct costs, indirect costs.
- 3.2 Unit rates are determined from database records and/or rate build up in accordance with company requirements.
- Range existing records, previous contracts, cost indices, wastage.
- 3.3 Quantities of items are determined in accordance with company requirements and contract specifications.

- 3.4 Costings are prepared utilising quantities and unit rates in accordance with company requirements and contract specifications.

Outcome 4

Compile a report on engineering project costing estimates.

Performance criteria

- 4.1 The report is coordinated including reports on design, consent requirements and project programme in accordance with client's requirements and company requirements.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 February 1998	31 December 2021
Revision	2	7 June 2000	31 December 2021
Revision	3	19 February 2004	31 December 2021
Revision	4	14 July 2005	31 December 2021
Rollover and Revision	5	18 December 2006	31 December 2021
Review	6	12 December 2019	31 December 2021

Consent and Moderation Requirements (CMR) reference	0120
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.