

Title	Apply mathematical methods to testing in a civil engineering laboratory		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to apply mathematical methods to testing in a civil engineering laboratory.
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Classification	Infrastructure Civil Engineering > Infrastructure Laboratory
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Available grade	Achieved
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Guidance Information

- 1 Assessment against performance criterion 1.1 must be based on evidence from a laboratory spreadsheet. Evidence for the balance of Outcome 1 must include working formulae.
- 2 Definition
Spreadsheet refers to an automatically calculating input/output worksheet such as Microsoft Excel, Laboratory Information Management System (LIMS), programmable calculator, or other software programmes.

Outcomes and performance criteria

Outcome 1

Apply mathematical methods to testing in a civil engineering laboratory.

Performance criteria

- 1.1 Laboratory spreadsheet data is validated using manual calculations.
Range spreadsheets from three different test methods.
- 1.2 Physical quantities are calculated and expressed in metric and imperial units.
Range physical quantities – area, volume, density, force, stress;
four different units showing working formulae.

- 1.3 Calculations of statistical information are performed from inter-lab proficiency test data.

Range statistical information includes but is not limited to – mean, standard deviation, mode, median, range; one inter-lab proficiency test.

- 1.4 A distribution plot is produced from inter-lab proficiency test data.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 February 2015	31 December 2021
Review	2	23 January 2020	N/A
Rollover	3	24 October 2024	N/A

Consent and Moderation Requirements (CMR) reference	0101
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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 Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.