

Title	Quantify and validate the uncertainty of measurement in test results in a civil engineering laboratory		
Level	5	Credits	5

Purpose	People credited with this unit standard are able to quantify and validate the uncertainty of measurement in test results 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 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable organisational and legislative requirements.
- 2 References
Civil Engineering Testing Association of New Zealand. *Uncertainty of measurement calculation sheet* available at <https://www.cetanz.org.nz/index-cfmppublications>;
ISO/IEC Guide 98-3:2008. *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement* available at <https://standards.govt.nz>.
- 3 Definition
Organisational requirements refer to instructions to staff on policy and procedures which are formally documented or generally accepted at the worksite. This may include legislation; industry standards and methods; national and international standards and methods; standard operating procedures; specifications; manuals; and manufacturer's information.

Outcomes and performance criteria

Outcome 1

Quantify and validate the uncertainty of measurement in test results in a civil engineering laboratory.

Performance criteria

- 1.1 The purpose of establishing measurement uncertainty is explained as it relates to testing materials in a civil engineering laboratory.
- 1.2 Contributing factors to measurement uncertainty are explained.

- 1.3 Uncertainty of measurement calculator is explained in terms of how it is used in the evaluation of results.
- 1.4 Measurements are expressed with uncertainties generated on the calculation sheet or equivalent method.
- Range evidence is required for three different tests.
- 1.5 Uncertainties are validated.

Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 January 2020	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 Connexis – Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.