

Title	Operate and maintain equipment to measure force in a civil engineering laboratory		
Level	3	Credits	3

Purpose	People credited with this unit standard are able to operate and maintain equipment to measure force 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 Applicable legislation, regulations, rules, standards and codes include but are not limited to the: Health and Safety at Work Act 2015; Hazardous Substances and New Organisms Act 1996 and their associated regulations and subsequent amendments; ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, available from <https://www.iso.org/store.html>; NZS 4402:1986 *Methods of testing soils for civil engineering purposes - Preliminary and general*, available from <https://www.standards.govt.nz/>; NZS 4407:2015 *Methods of sampling and testing road aggregates*, available from <https://standards.govt.nz>.
- 3 Definitions
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.
Samples may include but are not limited to – prepared materials and test materials such as standards and reagents.

Outcomes and performance criteria

Outcome 1

Operate and maintain equipment to measure force in a civil engineering laboratory.

Range mechanical, electronic.

Performance criteria

1.1 Equipment is selected in accordance with sample requirements and method.

Range includes but is not limited to – range, precision, units, type.

1.2 Equipment is checked before use.

Range may include but is not limited to – condition, environmental conditions, safety equipment, calibration status.

1.3 Sample requirements are assessed.

Range may include but is not limited to – environmental conditions, placement.

1.4 Force is measured.

Range may include but is not limited to – stable reading, parallax errors.

1.5 Results are recorded.

Range results may include but are not limited to – force, date, time, operator.

1.6 Equipment is cleaned and maintained.

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	21 January 2011	31 December 2021
Review	2	23 January 2020	N/A
Rollover and Revision	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 Waihangara Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihangaraarau.nz if you wish to suggest changes to the content of this unit standard.