

The Degree of Master of Civil Engineering (MCivilEng – 120 points)

These regulations must be read in conjunction with the General Regulations for the University.

1. Version

- (a) These Regulations came into force on 1 January 2024.
- (b) This degree was first offered in 2019.

2. Variations

In exceptional circumstances the Amo Matua, Pūhanga | Executive Dean of Engineering or delegate may approve a personal programme of study which does not conform to these Regulations.

3. The structure of the qualification

To qualify for the Master of Civil Engineering a student must:

- (a) be credited with a minimum of 120 points towards the qualification; and
- (b) be credited with an approved workshop covering topics relevant to indigenous consultation and engagement; and
- (c) be credited with a minimum of 75 points from 600-level courses; and
- (d) either completed with an endorsement in a single subject with:
 - i. a minimum of 60 points from courses at the 600-level in the subject of endorsement in Schedule S to these Regulations; and
 - ii. up to 60 points from courses in any subject in Schedule S to these Regulations; or
- (e) completed unendorsed with courses from any subject in Schedule S or from Schedule E to these Regulations with a maximum of 45 points at 400-level courses or from any 600-level courses offered by the Department of Civil and Natural Resources Engineering subject to the approval of the programme director.

4. Admission to the qualification

To be admitted to the Master of Civil Engineering a student must have:

- (a) either
 - i. qualified for an Aotearoa New Zealand Bachelor of Engineering with First or Second Class Honours in an appropriate subject; or
 - ii. qualified for an Aotearoa New Zealand Postgraduate Certificate in Civil Engineering with a GPA of at least 5.0; or
 - iii. qualified for an Aotearoa New Zealand Bachelor of Science with First or Second Class Honours in an appropriate subject; or
 - iv. been admitted with Academic Equivalent Standing for the Degree of Master of Civil Engineering; and
- (b) been approved as a candidate for the Degree by the Amo Matua, Pūhanga | Executive Dean of Engineering or delegate.

5. Subjects

The qualification may be awarded with and endorsed in the following subjects: Construction Management, Earthquake Engineering, Geotechnical Engineering, Renewable Energy, Structural Engineering, Structural Fire Engineering, Transportation Engineering, or Water Engineering.

6. Time limits

This qualification adheres to the General Regulations for the University with a time limit of 48 months.

7. Transfers of credit, substitutions and cross-credits

This qualification adheres to the Credit Recognition and Transfer Regulations, with no additional stipulations.

8. Progression

This qualification adheres to the General Regulations for the University with the following stipulation:

- i. A student who fails up to 30 points for the qualification may, with the permission of the Amo Matua, Pūhanga | Executive Dean of Engineering or delegate, repeat that course or courses, or

substitute another course or courses of equal weight.

- ii. A student who fails more than 30 points will be withdrawn from the qualification.

9. Honours, Distinction and Merit

This qualification adheres to the General Regulations for the University and may be awarded with Distinction and Merit.

10. Exit and Upgrade Pathways to other Qualifications

A student for the qualification who has satisfied all requirements for the Postgraduate Certificate in Civil Engineering may apply to withdraw from the degree and be awarded the Postgraduate Certificate in Civil Engineering.

Schedule S: Subject Courses for the Degree of Master of Civil Engineering: Endorsements

For full course information, go to www.canterbury.ac.nz/courses

Construction Management

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENCI601	Risk Management	15	S1	Campus	P: Subject to approval of the Director of Studies
ENCM610	Construction Management	15	NO		P: Subject to approval of Programme Director
ENCM620	Construction Procurement and Contract Administration	15	S1	Campus	P: Subject to approval of Programme Director
ENCM630	Project Management, Planning and Control Techniques	15	S1	Campus	P: Subject to approval of Programme Director
ENCM650	Cost Engineering	15	NO		RP: BE (Hons) or equivalent
ENCM672	Independent Course of Study	15	NO		P: Subject to approval of the Director of Studies
ENCM673	Independent Course of Study	15	NO		P: Subject to approval of the Director of Studies
ENCM676	Construction Equipment and Heavy Construction Methods	15	S2	Campus	
ENCM678	Special Topic	15	NO		P: Subject to approval of the Director of Studies
ENCM682	Research Project	30	A	Campus	P: Subject to approval of Programme Director

Earthquake Engineering

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENCI438	Introduction to Structural Earthquake Engineering	15	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281, ENCI335, ENCI336 R: ENCI429
ENEQ610	Seismic Hazard and Risk Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director. R: ENCI617
ENEQ620	Advanced Geotechnical Earthquake Engineering	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director. R: ENCI620
ENEQ623	Finite Element Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director
ENEQ624	Nonlinear Structural Analysis and Dynamics	15	X	Campus	P: Subject to approval of the Head of Department or Programme Co-ordinator.

ENEQ641	Nonlinear Concrete Mechanics and Modelling Techniques	15	X	Campus	P: Subject to approval of the Head of Department or Programme Director
ENEQ650	Advanced Steel and Composite Structures	15	X	Campus	P: ENCI436 or approval of Head of Department or Programme Director R: ENCI611
ENEQ676	Advanced Reinforced Concrete	15	S2	Campus	P: ENCI426, ENCI436 or equivalent.
ENEQ682	Ground Improvement Techniques	15	X	Campus	P: ENCN253 and ENCN353 or equivalent

Geotechnical Engineering

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENCI675	Independent Course of Study	15	S1	Campus	P: Subject to approval of the Head of Department.
			S2	Campus	
			W	Campus	
ENCI682	Special Topic Civil Engineering - Project	30	A	Campus	P: Subject to approval of the Head of Department.
ENCN452	Advanced Geotechnical Engineering	15	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281, ENCN353 R: ENCI452
ENCN454	Introduction to Geotechnical Earthquake Engineering	15	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281, ENCN353 R: ENCI620
ENEQ610	Seismic Hazard and Risk Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director. R: ENCI617
ENEQ620	Advanced Geotechnical Earthquake Engineering	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director. R: ENCI620
ENEQ623	Finite Element Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director.
ENEQ682	Ground Improvement Techniques	15	X	Campus	P: ENCN253 and ENCN353 or equivalent
ENGE412	Rock Mechanics and Rock Engineering	15	NO		P: (1) ENCN 353 or (2) MATH101 or MATH102 or MATH103 and (3) approval from the Head of Department of Geological Sciences R: ENGE 485
GEOL479	Active Tectonics and Geomorphology	15	S2	Campus	P: Subject to approval by the Course Coordinator RP: Meet requirements for entry to DRRE, ENGE, or MCivilEng 400-level courses.

Renewable Energy

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENCI682	Special Topic Civil Engineering - Project	30	A	Campus	P: Subject to approval of the Head of Department
ENCN423	Sustainable Energy Technologies	15	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281 R: ENME405 EQ: ENNR423
ENCN623	Energy Systems Modelling and Analysis	15	S2	Campus	P: ENCN423 or ENME405 or subject to approval of the Head of Department

ENCN625	Wind Resource Modelling	15	S2	Campus	P: ENCN423 or ENME405 or subject to approval of the Head of Department
ENEL667	Renewable Electricity System Design	15	S2	Campus	R: ENEL663, ENEL664
ENGR621	Energy, Policy and Society	15	S1	Campus	P: Subject to the approval of the Head of Department.

Structural Engineering

Course Code	Course Title	Pts	2024	Location	P/C/R/ RP/EQ
ENAE603	Structural Design Practice	15	X	Campus	P: Subject to approval of the Head of Department
ENAE604	Structural Assessment and Retrofit	15	X	Campus	P: Subject to approval of the Head of Department
ENCI436	Behaviour and Design of Structures 2	30	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281, ENCI335, ENCI336 C: ENCI438 R: ENCI425, ENCI426, ENCI427
ENCI621	Concrete Materials	15	NO		P: Subject to approval of Programme Director.
ENEQ623	Finite Element Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director
ENEQ624	Nonlinear Structural Analysis and Dynamics	15	X	Campus	P: Subject to approval of the Head of Department or Programme Co-ordinator.
ENEQ641	Nonlinear Concrete Mechanics and Modelling Techniques	15	X	Campus	P: Subject to approval of the Head of Department or Programme Director
ENEQ650	Advanced Steel and Composite Structures	15	X	Campus	P: ENCI436 or approval of Head of Department or Programme Director R: ENCI611

Structural Fire Engineering

Course Code	Course Title	Pts	2024	Location	P/C/R/ RP/EQ
ENCI436	Behaviour and Design of Structures 2	30	S1	Campus	P: EMTH210, ENCI199, ENCN201, ENCN205, ENCN213, ENCN221, ENCN231, ENCN242, ENCN253, ENCN281, ENCI335, ENCI336 C: ENCI438 R: ENCI425, ENCI426, ENCI427
ENEQ623	Finite Element Analysis	15	X	Campus	P: Subject to approval of the Head of Department or the Programme Director
ENEQ624	Nonlinear Structural Analysis and Dynamics	15	X	Campus	P: Subject to approval of the Head of Department or Programme Co-ordinator.
ENEQ641	Nonlinear Concrete Mechanics and Modelling Techniques	15	X	Campus	P: Subject to approval of the Head of Department or Programme Director
ENFE601	Structural Fire Engineering	15	S1	Campus	P: ENGR403 or subject to approval of the Head of Department R: ENCI661
ENFE602	Fire Dynamics	15	S1	Campus	P: ENGR403 EQ: ENCI663
ENFE610	Advanced Fire Dynamics	15	X	Campus	P: ENGR403
ENFE618	Advanced Structural Fire Engineering	15	X	Campus	P: ENFE601, ENFE602
ENGR403	Fire Engineering	15	SU1 S1	Campus Campus	P: Subject to approval of the Director of Studies

Transportation Engineering

The courses listed below or any 600-level courses offered under the Transport Engineering course list (ENTR)

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENTR602	Road Safety Improvement	15	S1	Campus	P: Subject to approval of the Programme Director EQ: ENTR607
ENTR603	Advanced Pavement Design	15	X	Campus	P: Subject to approval of the Programme Director.
ENTR604	Road Asset Management	15	NO		P: Subject to approval of the Programme Director.
ENTR608	Traffic Management and Monitoring	15	S2	Campus	P: ENCN261, ENCN412 or equivalent
ENTR612	Transport Policy and System Management	15	NO		P: Subject to approval of the Programme Director R: ENTR601
ENTR613	Highway Geometric Design	15	NO		P: Subject to approval of the Programme Director
ENTR614	Planning and Design of Sustainable Transport	15	X	Campus	P: Subject to approval of the Programme Director
ENTR615	Advanced Traffic Flow Theory	15	X	Campus	P: ENCN 412: traffic engineering or equivalent
ENTR616	Transport Planning and Modelling	15	NO		P: Subject to approval of the Programme Director R: ENTR605
ENTR619	Special Topic: Pavement Engineering	15	NO		P: Subject to approval of the Programme Director.

Water Engineering

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENCI634	Engineering Chemistry for Water Systems	15	S1	Campus	P: Subject to approval of the Programme Director
ENCI646	Flood Analysis, Modelling and Management	15	S2	Campus	P: Subject to approval of the Head of Department or the Programme Director. The expected level of previous experience is detailed in the course outline.
ENCI648	Water Supply and Demand	15	S1	Campus	P: ENCN304, ENCN342 or equivalent
ENCI677	Advanced Wastewater Treatment	15	X	Campus	P: ENCN281 and ENCN481 or equivalent
ENCI693	Special Topic:	15	S2	Campus	P: Subject to approval of the Head of Department.

Schedule E: Elective Courses for the Degree of Master of Civil Engineering: General Courses

Course Code	Course Title	Pts	2024	Location	P/C/R/RP/EQ
ENAE601	Whole Building Behaviour and Performance	15	X1	Campus	P: Subject to approval of the Head of Department
			X2	Campus	
ENAE602	Collaborative Building Design Studio	15	X1	Campus	P: Subject to approval of the Head of Department.
			X2	Campus	
ENAE605	Sustainable Building Design Practice	15	X	Campus	P: Subject to approval of the Head of Department
ENAE606	Building Modelling and Integrated Design	15	X	Campus	P: Subject to approval of the Head of Department