Overview

Two Year Masters - Civil Engineering

The program in which the stream belongs aligns with the Structure of Postgraduate Coursework Policy and procedures.

The stream of Civil Engineering enables students to specialise, and gain depth of knowledge across a broad range of areas, including project management, transport engineering, structural engineering, geotechnical engineering, water resources and waste water treatment.

ENTRY REQUIREMENTS

Entry is open to students with a four year non-accredited (under the Washington Accord) Bachelor of Civil Engineering degree or equivalent. Alternatively, eligible applicants include those who hold a three year Engineering Science degree, at least equivalent to the first three years of a relevant Civil Engineering degree accredited under the Washington Accord.

For entry details, please click here.
Faculty
Faculty of Engineering

School
School of Civil and Environmental Engineering

Study Level
Postgraduate

Minimum Units of Credit
96

Specialisation Type
Specialisation
Available in Program(s)

Program(s) in which this specialisation is available

Master of Engineering - ME
8621 Engineering
Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 96
Typical Duration: 2 Years

Master of Engineering - ME
8621 Engineering
Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 96
Typical Duration: 2 Years
Specialisation Structure

Students must complete 96 UOC.

Research Project

Students must take complete CVEN9000 plus a total of 12 UOC of the Masters Project Courses, either all three of CVEN9451, CVEN9452 & CVEN9453 or CVEN9050 & CVEN9051.

CVEN9000  |  6 UOC  
Civil Engineering Design Practice

CVEN9050  |  6 UOC  
Masters Practice Project A

CVEN9051  |  6 UOC  
Masters Practice Project B

CVEN9451  |  4 UOC  
Masters Project A

CVEN9452  |  4 UOC  
Masters Project B

CVEN9453  |  4 UOC  
Masters Project C

Civil Engineering Core Courses

Students must take 24 UOC of the following courses.

CVEN3303  |  6 UOC  
Steel Structures

CVEN3304  |  6 UOC  
Concrete Structures
CVEN9525  |  6 UOC  
Fundamentals of Geomechanics

CVEN9625  |  6 UOC  
Fundamentals of Water Engineering

**Level 4 Engineering and the Environment Electives**

Students must take at least 6 UOC, up to a maximum of 18 UOC of the following courses.

CVEN4104  |  6 UOC  
Sustainability in Construction

CVEN4705  |  6 UOC  
Environmental Sustainability - Methods, Tools, Management

CVEN9898  |  6 UOC  
Fundamentals of Sustainable Infrastructure

**Level 4 Management Electives**

Students must take at least 12 UOC of the following courses.

CVEN4101  |  6 UOC  
Problem Solving for Engineers

CVEN4102  |  6 UOC  
Operations and Projects

CVEN4103  |  6 UOC  
Engineering Contracts

CVEN9727  |  6 UOC  
Construction Estimating and Tendering

CVEN9741  |  6 UOC
Level 4 Prescribed Electives

Students can take up to a maximum of 6 UOC of the following courses.

CVEN4201 | 6 UOC
Rock and Slope Engineering

CVEN4202 | 6 UOC
Advanced Topics in Geotechnical Engineering

CVEN4204 | 6 UOC
Ground Improvement and Monitoring Techniques

CVEN4301 | 6 UOC
Advanced Concrete Structures

CVEN4308 | 6 UOC
Structural Dynamics
CVEN4309  |  6 UOC  
Sustainable Timber Engineering

CVEN4310  |  6 UOC  
Deformation Monitoring Surveys

CVEN4402  |  6 UOC  
Transport Systems - Part 1: Network Analysis

CVEN4507  |  6 UOC  
Advanced Water Engineering

CVEN4800  |  6 UOC  
Satellite Remote Sensing and Applications

GMAT4220  |  6 UOC  
Geospatial Information Science

**Level 5 Electives**

Students must take 30 UOC of the following courses with a maximum of 18 UOC from any one discipline group.

CVEN9405  |  6 UOC  
Urban Transport Planning Practice

CVEN9407  |  6 UOC  
Transport Modelling

CVEN9415  |  6 UOC  
Transport Systems Part 2

CVEN9421  |  6 UOC  
Transport Logistics Engineering

CVEN9422  |  6 UOC
Traffic Management and Control

CVEN9511  |  6 UOC
Geotechnical Models and Site Investigation

CVEN9512  |  6 UOC
Geomechanics

CVEN9513  |  6 UOC
Advanced Foundation Engineering

CVEN9514  |  6 UOC
Numerical Methods in Geotechnical Engineering

CVEN9521  |  6 UOC
Slope Instability and Stabilisation

CVEN9522  |  6 UOC
Rock Engineering

CVEN9523  |  6 UOC
Pavement Engineering and Analysis

CVEN9524  |  6 UOC
Geotechnical Engineering of Dams

CVEN9526  |  6 UOC
Earthquake Engineering and Foundation Dynamics

CVEN9611  |  6 UOC
Urban Hydrology and Stormwater Management

CVEN9612  |  6 UOC
Catchment and Water Resources Modelling
<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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</thead>
<tbody>
<tr>
<td>CVEN9620</td>
<td>6</td>
</tr>
<tr>
<td>Channels, Rivers and Estuaries</td>
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<tr>
<td>CVEN9630</td>
<td>6</td>
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<tr>
<td>Groundwater Hydrology and Resources Analysis</td>
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<tr>
<td>CVEN9640</td>
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<tr>
<td>Coastal Engineering</td>
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<tr>
<td>CVEN9701</td>
<td>6</td>
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<tr>
<td>Engineering Economics and Financial Management</td>
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<tr>
<td>CVEN9702</td>
<td>6</td>
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<tr>
<td>Project Planning and Control</td>
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<tr>
<td>CVEN9706</td>
<td>6</td>
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<tr>
<td>Human Resources Management</td>
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<tr>
<td>CVEN9707</td>
<td>6</td>
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<tr>
<td>Contracts Management</td>
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<tr>
<td>CVEN9710</td>
<td>6</td>
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<tr>
<td>Management of Risk</td>
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<tr>
<td>CVEN9723</td>
<td>6</td>
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<tr>
<td>Design of Construction Operations</td>
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<tr>
<td>CVEN9726</td>
<td>6</td>
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<tr>
<td>Legal Studies and Professional Practice</td>
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<tr>
<td>CVEN9731</td>
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<tr>
<td>Project Management Framework</td>
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<tr>
<td>CVEN9802</td>
<td>6</td>
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<tr>
<td>Structural Stability</td>
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</table>
Students may only undertake a maximum of 18 UOC of the following courses.

**CVEN9511** | 6 UOC
Geotechnical Models and Site Investigation

**CVEN9512** | 6 UOC
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<td>Advanced Foundation Engineering</td>
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<td>Earthquake Engineering and Foundation Dynamics</td>
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</table>

**Maximum Level 5 Project & Construction Mgmt UOC**

Students may only undertake a maximum of 18 UOC of the following courses.

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<tr>
<td>CVEN9701</td>
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<td>Engineering Economics and Financial Management</td>
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<td>CVEN9702</td>
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<td>Project Planning and Control</td>
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<td>CVEN9706</td>
<td>6</td>
</tr>
<tr>
<td>Human Resources Management</td>
<td></td>
</tr>
</tbody>
</table>
CVEN9707 | 6 UOC  
Contracts Management

CVEN9710 | 6 UOC  
Management of Risk

CVEN9723 | 6 UOC  
Design of Construction Operations

CVEN9726 | 6 UOC  
Legal Studies and Professional Practice

CVEN9731 | 6 UOC  
Project Management Framework

**Maximum Level 5 Structural Engineering UOC**

Students may only undertake a maximum of 18 UOC of the following courses.

CVEN9802 | 6 UOC  
Structural Stability

CVEN9806 | 6 UOC  
Prestressed Concrete Design

CVEN9809 | 6 UOC  
Reinforced Concrete Design

CVEN9818 | 6 UOC  
Bridge Engineering

CVEN9820 | 6 UOC  
Computational Structural Mechanics

CVEN9822 | 6 UOC  
Steel and Composite Structures
Advanced Materials Technology

**Maximum Level 5 Transport Engineering UOC**

Students may only undertake a maximum of 18 UOC of the following courses.

- **CVEN9405**  |  6 UOC  
  Urban Transport Planning Practice

- **CVEN9407**  |  6 UOC  
  Transport Modelling

- **CVEN9415**  |  6 UOC  
  Transport Systems Part 2

- **CVEN9421**  |  6 UOC  
  Transport Logistics Engineering

- **CVEN9422**  |  6 UOC  
  Traffic Management and Control

**Maximum Level 5 Water Engineering UOC**

Students may only undertake a maximum of 18 UOC of the following courses.

- **CVEN9611**  |  6 UOC  
  Urban Hydrology and Stormwater Management

- **CVEN9612**  |  6 UOC  
  Catchment and Water Resources Modelling

- **CVEN9620**  |  6 UOC  
  Channels, Rivers and Estuaries

- **CVEN9630**  |  6 UOC  
  Groundwater Hydrology and Resources Analysis
Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179