Overview

This stream belongs to the proposed 1 year (48UOC) Graduate Diploma of Engineering Science program (program code 5341).

ENTRY REQUIREMENTS

In order to be admitted to the program a student may either hold a 4-year Bachelor of Engineering in a relevant discipline or an equivalent qualification from a recognised university or tertiary institution, a 3- or 4-year Bachelor of Engineering or Science in a relevant discipline (or equivalent) plus at least 3 years of relevant professional experience (exact positions and roles that will be considered relevant to be decided by each specialisation), or articulate from a GradCert at UNSW.

For entry details, please click here.

Why do a postgraduate course work program?

Whether you choose to undertake a Postgraduate Coursework program straight after your undergraduate studies, a few years into your career or as part of continuous professional development, it will help you to:

- Excel in your field: by extending your knowledge with highly specialised training.
- Further develop key transferable skills: such as research and analysis, problem-solving, teamwork, management and communication.
- Expand your options: by complementing existing knowledge or retraining to open new career opportunities.
Faculty
Faculty of Engineering

School
School of Civil and Environmental Engineering

Study Level
Postgraduate

Minimum Units of Credit
48

Specialisation Type
Specialisation
Available in Program(s)

Program(s) in which this specialisation is available

Graduate Diploma in Engineering Science - GradDipEngSc

5341 Engineering Science

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years
**Specialisation Structure**

Students must complete 48 UOC.

**Advanced Disciplinary Courses**

Students may choose up to 48 UOC of courses from any postgraduate specialisation offered from the School of Civil and Environmental Engineering: Environmental Engineering (CVENDT), Geotechnical Engineering & Engineering Geology (CVENST), Project Management (CVENET), Structural Engineering (CVENWS), Water, Wastewater and Waste Engineering (CVENJT), Water Resources: catchments to coasts (CVENHT), Transport Engineering (CVENBT).

**any level 9 Civil and Environmental Engineering course**

**Disciplinary Knowledge**

Students may choose up to 48 UOC of Disciplinary Knowledge courses.

- **CVEN4101** | 6 UOC
  Problem Solving for Engineers

- **CVEN4102** | 6 UOC
  Operations and Projects

- **CVEN4103** | 6 UOC
  Engineering Contracts

- **CVEN4104** | 6 UOC
  Sustainability in Construction

- **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

CVEN4310 | 6 UOC
Deformation Monitoring Surveys

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

CVEN4507 | 6 UOC
Advanced Water Engineering

CVEN9898 | 6 UOC
Fundamentals of Sustainable Infrastructure

**Engineering & Technical Management (ETM) Courses**

Student may take up to a maximum 12 UOC of the following courses.

COMP9021 | 6 UOC
Principles of Programming

CVEN9888 | 6 UOC
Environmental Management

CVEN9892 | 6 UOC
Sustainability Assessment and Risk Analysis

GSOE9017 | 6 UOC
Managing Energy Efficiency
<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
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<tbody>
<tr>
<td>GSOE9210</td>
<td>6</td>
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<tr>
<td>Engineering Decision Structures</td>
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<tr>
<td>GSOE9360</td>
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<tr>
<td>Academic Discourse in Engineering</td>
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<td>GSOE9445</td>
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<tr>
<td>Entrepreneurial Engineering</td>
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<td>GSOE9510</td>
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<tr>
<td>Ethics and Leadership in Engineering</td>
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<tr>
<td>GSOE9712</td>
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<tr>
<td>Engineering Statistics and Experiment Design</td>
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<tr>
<td>GSOE9810</td>
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<td>Process and Product Quality in Engineering</td>
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<td>MANF6860</td>
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<td>Strategic Manufacturing Management</td>
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<tr>
<td>MANF9400</td>
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<td>Industrial Management</td>
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<td>MANF9472</td>
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<td>Production Planning and Control</td>
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<td>MATH5165</td>
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<td>Optimization</td>
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<td>MATH5846</td>
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<tr>
<td>Introduction to Probability and Stochastic Processes</td>
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<tr>
<td>SOLA9004</td>
<td>6</td>
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</tbody>
</table>
Sustainable and Renewable Energy

SOLA9016 | 6 UOC
Sustainable Energy in Developing Countries

SOLA9103 | 6 UOC
Renewable Energy System Modelling & Analysis

One of the following:

CEIC8204 | 6 UOC
Topics in Business Management in Chemical Engineering

CVEN9701 | 6 UOC
Engineering Economics and Financial Management

GSOE9830 | 6 UOC
Economic Decision Analysis in Engineering

One of the following:

GSOE9340 | 6 UOC
Life Cycle Engineering

SOLA9015 | 6 UOC
Life Cycle Assessment

One of the following:

CVEN9731 | 6 UOC
Project Management Framework

GSOE9820 | 6 UOC
Engineering Project Management

**Research-related Courses**

Students may take up to 6 UOC of research-related courses

One of the following:

GSOE9010 | 6 UOC
Engineering Postgraduate Coursework Research Skills
Electives & Recommended ETM Courses

Students can take up to 12 UOC Electives, and may choose electives from a list of approved courses provided by the School of Civil and Environmental Engineering.

Up to 12 UOC of foundation courses (Level 3) may be approved by the Program Authority.

For the Civil Engineering specialisation the following Electives and ETM courses are recommended:
- CVEN9701 Eng Economics & Financial Mngt (6 UOC)
- CVEN9723 Design of Construction Ops (6 UOC)
- CVEN9731 Project Management Framework (6 UOC)
- CVEN9888 Environmental Management (6 UOC)
- CVEN9892 Sustainability & Risk Analysis (6 UOC)

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.
Additional Information

Recognition of Prior Learning (RPL)

A student may apply to the Program or Stream Authority for advanced standing or exemption as per the UNSW RPL Policy and Procedures. Program or Stream Authorities may grant up to 24UOC of advanced standing or exemption if they consider the student has prior learning (formal, informal or non-formal) where it can be demonstrated that the student has achieved equivalent learning outcomes to the particular course(s). Application for advanced standing or exemption would require substantiating evidence including documents such as academic records, continuing professional education, professional registration and statements of service from the employer.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions