Overview

The Chief of Defence Force Honours Program in Engineering offers the opportunity for students entering UNSW Canberra with a high Entrance Rank, and who maintain a high level of performance in their studies, to undertake research in a range of disciplines that will develop their critical thinking and independent research skills beyond that available in the standard Engineering program.

In Year 1 of the program students will be engaged with cohort activities so as to develop and maintain their interest and continuing involvement in the program via invited lectures, seminars, general reading and social events.

Commencing in Year 2, the research projects, each offered as separate courses, will be supervised by academic staff from the same or closely related discipline. Students in the research courses may work independently or as part of a team, depending on the nature of the project undertaken, though all students will submit individual assessment. Final assessment, due by the end of semester, will be based on a written paper and an oral presentation.

The Bachelor of Engineering (Honours) (CDF) in Civil Engineering program has objectives and learning outcomes in common with the standard Bachelor of Engineering (Honours) in Civil Engineering program. The program extends the educational principles embodied in the Bachelor of Engineering (Honours) in Civil Engineering to a higher level of the degree. In the program, students will be exposed in first year to research methods in Engineering and will be offered significant extensions to the ideas and analysis performed in the standard degree program. This will allow them to undertake research projects, at the appropriate level, in their later years, thereby, more fully integrating research into the standard undergraduate degree. The individual projects undertaken in close association with academic staff on research topics of mutual interest underpin the program and give the students the ability to develop their full potential.
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>UNSW Canberra at ADFA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campus</strong></td>
<td>Canberra</td>
</tr>
<tr>
<td><strong>Study Level</strong></td>
<td>Undergraduate</td>
</tr>
<tr>
<td><strong>Typical duration</strong></td>
<td>4 Years</td>
</tr>
<tr>
<td><strong>Delivery Mode</strong></td>
<td>Face-to-face</td>
</tr>
<tr>
<td><strong>Academic Calendar</strong></td>
<td>UNSW Canberra Calendar</td>
</tr>
<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>192</td>
</tr>
<tr>
<td><strong>Award type</strong></td>
<td>Bachelors Honours</td>
</tr>
<tr>
<td><strong>Award(s)</strong></td>
<td>Bachelor of Engineering (Honours) - BE (Hons)</td>
</tr>
</tbody>
</table>
Learning Outcomes

1. Graduates will be able to relate a quantitative, theory-based understanding of the sciences and engineering fundamentals of civil engineering (encompassing structural analysis and design, infrastructure planning and design, water and environmental technologies, and construction materials, technologies and project management).

2. Graduates will have demonstrated a comprehensive understanding of design and construction techniques and standards, and will be able to articulate directions of future research and knowledge development in civil engineering.

3. Graduates will be able to synthesise engineering design practice, contextual factors, norms and accountabilities in and the limitations on civil engineering.

4. Graduates will be able to define, conduct experiments on and analyse complex, open-ended problems and apply appropriate methods for their solution.

5. Graduates will have demonstrated proficiency in applying systematic engineering synthesis and design processes, and critically evaluating and effectively communicating the results and implications to diverse audiences.

6. Graduates will have reviewed fields of contemporary research, identified a research objective, pursued this research objective through design, analysis, and experiment, and evaluated and communicated the results of this research.

7. Graduates will be able to operate in collaborative environments, as leader or member of interdisciplinary teams.

8. Graduates will have demonstrated independence, creativity and ethical conduct, and explain the importance of user-focused and sustainable solutions.

Graduate Capabilities:
For more information on Graduate Capabilities, please click on this link.
Program Structure

Students must complete 192 UOC as a standalone program.

1. Core Courses - 168 UOC
2. Technical Electives - 12 UOC
3. General Education Courses - 12 UOC

Level 1 Core Courses

Students must take 48 UOC of the following courses.

ZEIT1503  |  6 UOC
Engineering Mechanics

ZEIT1690  |  6 UOC
Civil Engineering Research 1A

ZEIT1902  |  6 UOC
Engineering Research 1B

ZPEM1102  |  6 UOC
Chemistry 1B

ZPEM1303  |  6 UOC
Engineering Mathematics 1A

ZPEM1304  |  6 UOC
Engineering Mathematics 1B

ZPEM1307  |  6 UOC
Computational Problem Solving

ZPEM1501  |  6 UOC
Physics 1A: Mechanics, Waves and Thermodynamics
Level 2 Core Courses

Students must take 48 UOC of the following courses.

ZEIT2500 | 6 UOC
Thermofluids

ZEIT2504 | 6 UOC
Mechanics of Solids

ZEIT2601 | 6 UOC
Soil Mechanics and Engineering Geology

ZEIT2602 | 6 UOC
Hydraulic Engineering

ZEIT2901 | 6 UOC
Engineering Research 2A

ZINT2100 | 6 UOC
Introduction to Cyber-Security: Policy & Operations

ZPEM2309 | 6 UOC
Engineering Mathematics 2A

ZPEM2310 | 6 UOC
Engineering Mathematics 2B

Level 3 Core Courses

Students must take 48 UOC of the following courses.

ZEIT3600 | 6 UOC
Structural Analysis

ZEIT3601 | 6 UOC
Environmental Engineering
<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZEIT3602</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Geotechnical Design</td>
<td></td>
</tr>
<tr>
<td>ZEIT3603</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Design of Steel and Timber Structures</td>
<td></td>
</tr>
<tr>
<td>ZEIT3606</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Foundation and Pavement Engineering</td>
<td></td>
</tr>
<tr>
<td>ZEIT3607</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Transportation Engineering</td>
<td></td>
</tr>
<tr>
<td>ZEIT3901</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Engineering Research 3A</td>
<td></td>
</tr>
<tr>
<td>ZEIT3902</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Engineering Research 3B</td>
<td></td>
</tr>
</tbody>
</table>

**Level 4 Core Courses**

Students must take 24 UOC of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZEIT4901</td>
<td>12 UOC</td>
</tr>
<tr>
<td>Engineering Research 4A</td>
<td></td>
</tr>
<tr>
<td>ZEIT4902</td>
<td>12 UOC</td>
</tr>
<tr>
<td>Engineering Research 4B</td>
<td></td>
</tr>
</tbody>
</table>

**Technical Electives**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>UOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZEIT3605</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Design of Concrete and Prestressed Concrete Structures</td>
<td></td>
</tr>
<tr>
<td>ZEIT4004</td>
<td>6 UOC</td>
</tr>
<tr>
<td>Geosynthetics and Ground Improvement</td>
<td></td>
</tr>
</tbody>
</table>
Finite Element Methods

Hydrology and Environmental Engineering Practice

**General Education**

Students must take at least 12 UOC of the following courses, normally taken in the fourth year of study.

One of the following:

- **ZGEN2222 | 6 UOC**
  - Introduction to Strategic Studies

- **ZGEN2801 | 6 UOC**
  - Strategy, Management and Leadership

  One of the following:

- **ZGEN2215 | 6 UOC**
  - Law, Force and Legitimacy

- **ZGEN2240 | 6 UOC**
  - Introduction to Military Ethics

**Practical Experience**

Before graduation a student shall complete 60 days of approved practical engineering experience which must be done in blocks of at least 20 working days each, each block being in the service of a single employer.

**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.
Related Programs

Bachelor of Engineering (Honours) - BE (Hons)

**4473 Civil Engineering (Honours)**

Faculty: UNSW Canberra at ADFA
Campus: Canberra
Units of Credit: 192
Typical Duration: 4 Years

Read More
Admission Requirements

Special Admission Requirements

Additional selection criteria for admission to this program:

- Other

Selection and job offer by Defence Force Recruiting with the Australian Defence Force (ADF) for military undergraduates or meeting the min. required ATAR min for civilian students.

For more information about admission requirements for various UNSW programs, visit the following website(s):

Domestic Students
International Student
Program Requirements

Progression Requirements

To qualify for the degree of Bachelor of Engineering (Honours) (CDF) in Civil Engineering, a student shall usually maintain a sessional Weighted Average Mean (WAM) of 80. Usually, a student who does not maintain a WAM of 80 shall be transferred to candidature for the degree of Bachelor of Engineering (Honours) in Civil Engineering, although exceptions maybe made at the discretion of the Head of School. Such review will occur at the end of each semester. This rule shall not usually be invoked for students with Potential Graduand status.

A student for the degree of Bachelor of Engineering (Honours) in Civil Engineering may, at the discretion of the Head of School, transfer to the degree of Bachelor of Engineering (Honours) (CDF) in Civil Engineering upon completion of 24 units of credit with a WAM of 85 or greater in semesters 1 or 2 of the Year 1 program.

For more information on university policy on progression requirements please visit Academic Progression.

Internships and Placements

Practical Experience Requirements

Before graduation a candidate shall complete 60 days of approved practical engineering experience which must be done in blocks of at least 20 working days each, each block being in the service of a single employer.

Service Training and Practical Experience Requirements

Service training conducted during the degree program is recognised as partially satisfying practical experience requirements in the following ways:

Naval Midshipmen, 30 days for experience gained at a defence establishment between second and third years. (Time at sea prior to arrival at UNSW Canberra at ADFA is not eligible for consideration.)

Army Cadets, 30 days for the year spent at Royal Military College between third and fourth years.

Air Force Cadets, 30 days for experience gained at a defence establishment between second and third years.
Professional Outcomes

Accreditations

Professional institutes that offer accreditation on completion of this program:

- Engineers Australia
Recognition of Achievement

University Medal

The University Medal is awarded to recognise outstanding academic performance by a bachelor degree student in line with the University Medal Policy and University Medal Procedure.

Honours Classes

The degree of Bachelor of Engineering (Honours) in Civil Engineering shall be conferred as a Bachelor Honours degree at Level 8 in the AQF. Honours in recognition of meritorious performance may be awarded in the following categories:

- Honours Class I
- Honours Class II, Division I
- Honours Class II, Division II

The Class of Honours is calculated as follows:

- Honours Class 1: Honours WAM of at least 80.0 and Thesis Mark of at least 65
- Honours Class 2 Division 1: Honours WAM of at least 75.0 and Thesis Mark of at least 65
- Honours Class 2 Division 2: Honours WAM of at least 65.0 and Thesis Mark of at least 65.

These honours levels will be displayed on the final testamur. Candidates who do not achieve Honours Class 1 or 2 will receive a Bachelor of Engineering (Honours) (CDF) in Civil Engineering with no honours level displayed.
Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

- Domestic Students
- Commonwealth Supported Students
- International Students

Additional Expenses

None
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
© UNSW Sydney (CRICOS Provider No.: 00098G), 2019. The information contained in this Handbook is indicative only. While every effort is made to keep this information up-to-date, the University reserves the right to discontinue or vary arrangements, programs and courses at any time without notice and at its discretion. While the University will try to avoid or minimise any inconvenience, changes may also be made to programs, courses and staff after enrolment. The University may also set limits on the number of students in a course.

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