# CIVIL AND ENVIRONMENTAL ENGINEERING STRANDS

## COURSE DETAILS

<table>
<thead>
<tr>
<th>Units of Credit</th>
<th>6</th>
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</table>
| Lectures/Tutorials | Monday 1400 to 1600 hrs  
Thursday 1400 to 1600 hrs |
| Lectures Rooms | Monday Model Bridge (CVEN01) & CAD  
Water for a Cambodian School (CVEN02)  
Mathews A  
TBA  
Tuesday All projects  
Science Theatre |
| Tutorial Rooms | You will be allocated to one of the following tutorial rooms:  
TBA |

(Nota: Mat = Mathews Building, Lib = Library Building, CE = Civil Engineering Building and EE = Electrical Engineering Building)

### School Coordinator:
- Professor Stephen Foster  
S.Foster@unsw.edu.au  
Room 719, Building H20  
9385 5055

### Coordinators:

#### Project 1: Model Bridge Structure
- Prof Stephen Foster  
S.Foster@unsw.edu.au  
Room 719, Building H20  
9385 5055

#### Project 2: Water for a Cambodian School
- (Engineers Without Borders)
- Ms. Rebecca Barnes  
becbarnes@civeng.unsw.edu.au  
Room CE 510, Building H20  
9385 5776

#### CAD
- Ms. Nooshin Jozan  
Details to be advised

#### Sustainability
- Dr Daniel Robinson  
D.Robinson@unsw.edu.au  
Institute of Env. Studies, Building H22  
9385 9809
This course is an entry point into the disciplines of engineering for students in their first year at UNSW. The course has an emphasis on design and communications and is intended to provide UNSW engineering students with an engaging “first year experience” while facilitating peer networking and developing their interest in the field of engineering.

In the Civil and Environmental Engineering programmes, in addition to a major project planned to absorb participants into the real world of design, students will expand their minds in issues such as how to design a sustainable future while placing into context the role of engineers in the society of tomorrow. The course has a strong focus on communication skills and the role of engineers in the community and issues such as context and responsibility of engineers in modern society are explored.

Within the structure of the ENGG100 (Figure 1) the School of Civil and Environmental Engineering will be organising the following 2 projects:

- Project 1: Heavy Civil Engineering (Bridges)
- Project 2 Environmental Engineering (Water for a Cambodian School)

Each project is designed to develop your insight into just some of the many faces of Civil and Environmental Engineering. See the project outlines for details of each project.
TEACHING STRATEGIES

Teaching consists of a series of integrated lectures and tutorials designed to introduce you to the engineering profession, in general, and civil and environmental engineering, in particular, though the study of engineering projects; to give context to the meanings of Civil and Environmental Engineering, the role and practices of Engineers in the profession and their professional responsibilities; to develop communications skills including technical report writing, drawing and oral presentation. Key lectures are given on the role and responsibility of engineers to the community including progress towards a sustainable future. Lectures are also given in developing written communication skills and in library research skills. Case studies will be presented to take a look at the history and development of Civil/Environmental Engineering in Australia and as a perspective on some of the social issues of the time.

A series of integrated lectures (Figure 2) are given to provide you with the base skills needed to show excellence in design and broaden your thinking towards design for a sustainable future (a key issue identified by the Institution of Engineers, Australia, in the training of young engineers).

![Figure 2 – Relationship between Lecture Content and Design Project](image)

EXPECTED LEARNING OUTCOMES

The expected learning outcomes are as follows:

- Development of problem solving skills for creative and innovative solutions to open ended problems
- The development of research skills including library research
- Communication skills in technical report writing and engineering drawing skills.
- The development of teamwork and project management skills.
- An understanding of the principles of ecologically sustainable development and their application to energy, water and infrastructure.

For each hour of contact it is expected that a student will put in at least 1.5 hours of private study.
COURSE PROGRAMME & ASSESSMENT

Course lectures are divided into a series of common and project based lectures mapped around the core learning outcomes. The subject assessment consists of individual and team components to enable the development and assessment of team skills.

A series of common lectures are scheduled that relate to both projects of the course with a series of lectures directed towards each of the project themes: Civil Infrastructure and Environmental Engineering (Sustainability and Engineering for Developing Regions). The course structure and assessment timetable is given in Table 1.

Problem solving and communication skills are essential for your success as an Engineer. Thus the assessment of this subject is weighted towards problem solving skills in design and communication skills (in all forms, eg, CAD, spoken, written, calculations, etc).

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Assessment</th>
<th>Thursday</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>1</td>
<td>Faculty: Introduction, Project Briefings, OH&amp;S</td>
<td>Faculty: Quick and fun design task</td>
<td>Design exercise</td>
<td>5% (Individual)</td>
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<tr>
<td>2</td>
<td>Review of Impromptu Design, Project Selection Briefing</td>
<td>Introduction to CVEN Projects: Group formation</td>
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<tr>
<td>3</td>
<td>School: Project Lecture 1 (including Project briefing)</td>
<td>Project appraisal</td>
<td>Teamwork/meetings</td>
<td>Technical Report Writing</td>
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<tr>
<td></td>
<td></td>
<td>5% (group/individual)</td>
<td></td>
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<tr>
<td>4</td>
<td>Project Lecture 2</td>
<td>Teamwork skills exercise</td>
<td>Sustainability principles</td>
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<tr>
<td>5</td>
<td>Project Lecture 3</td>
<td>Project Planning exercise</td>
<td>Application of sustainability principles to</td>
<td>energy</td>
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<td></td>
<td></td>
<td>5% (group/individual)</td>
<td>Urban planning, transport and other urban</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>infrastructure</td>
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<tr>
<td>6</td>
<td>Engineering drawing and CAD 1</td>
<td>Draft report 10%</td>
<td>Decision making processes in environmentally</td>
<td>20% (individual)</td>
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<td></td>
<td>sensitive projects</td>
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<tr>
<td>7</td>
<td>Engineering drawing and CAD 2</td>
<td>CAD Task 10%</td>
<td>Engineering drawing and CAD 5</td>
<td></td>
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<tr>
<td>8</td>
<td>Engineering drawing and CAD 3</td>
<td>CAD Task 10%</td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Engineering drawing and CAD 4</td>
<td>Engine</td>
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<td></td>
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<td>ered drawing and CAD 5</td>
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<tr>
<td>10</td>
<td>Project testing</td>
<td>Testing 10%. Project Report 30% (group)</td>
<td>Hand back of EIS assignment</td>
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<tr>
<td>11</td>
<td>Project Feedback</td>
<td>Hand back of EIS assignment</td>
<td>Faculty: Celebration</td>
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<td>12</td>
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Notes: 1. 40% individual assessment; 60% group assessment.
2. Faculty common, green: School common, brown: Project specific, blue.