COURSE DETAILS

Units of Credit 6
Contact hours 3 hours per week
Class Fri, 13:00 – 16:00 Vallentine Annexe 121 (K-H22-121)
Course Coordinator and Lecturer Dr X Shen
email: x.shen@unsw.edu.au
office: CE 212, Civil Engineering Building (H20)
phone: 02 9385 0483

COURSE COMMUNICATIONS
All communications on the course are to be through the Moodle’s “Questions” section, or during the nominated lecture/workshop time slots. Using the Moodle discussion tool allows all students to see replies to any questions asked, and allows all students to join the discussions. Also use the Moodle discussion tool to create discussion topics with others in the class.

INFORMATION ABOUT THE COURSE
The course is designed to extend your knowledge on engineering design and planning of construction operations. It covers fundamental construction methods and design practices for a variety of construction processes, including heavy civil construction, building construction and tunnel and utility pipeline construction. Examples will be given to guide the students in planning and directing construction operations.

EXCLUDED COURSE
Students should not undertake the course if they have completed the equivalent undergraduate course before:

- CVEN4102 – Operations and Projects

HANDBOOK DESCRIPTION
See link to virtual handbook:


OBJECTIVES
The objectives of this course are to:

- Understand a variety of construction methods and processes;
- Identify the key factors adopted in the design of permanent and temporary structures;
- Work effectively in teams for group assignments;
- Investigate the state-of-the-art in construction technologies and operations.

TEACHING STRATEGIES

Private Study: Review lecture material, Do set problems and assignments, Join Moodle discussions of problems
### EXPECTED LEARNING OUTCOMES

By completing this course students should be able to:

- Explain the process of construction operations;
- Work independently on the design of permanent and temporary structures;
- Report the findings from individual and group assignments.

For each hour of contact it is expected that you will put in at least 1.5 hours of private study.

### ASSESSMENT

Assessment for the course comprises of one individual assignment, one group assignment, one mid-semester exam and one final exam.

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
<th>Due Date</th>
<th>Rationale and Assessment Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Assignment *</td>
<td>10</td>
<td>Initial Submission : 24/3 (Week 4) Final Submission: 7/4 (Week 6)</td>
<td>The purpose of the assignment is to work independently on the engineering design of construction operations. Students can reflect and apply what they have learnt from the course by solving practical and open-ended engineering problems.</td>
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<tr>
<td>Group Assignment *</td>
<td>20</td>
<td>19/5 (Week 11)</td>
<td>Engineering design is generally a team-based activity. The group assignment will help students to learn how to work effectively in a team-based environment. Each group can be up to 4 students. Detailed descriptions of the group assignments will be provided in Moodle.</td>
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<tr>
<td>Mid-Semester Exam</td>
<td>20</td>
<td>28/4 (Week 8)</td>
<td>The mid-semester exam will assess the basic knowledge covered in the main topics of the course. Students who perform poorly in the mid-semester exam will have a chance to discuss progress with the lecturer during the semester. The mid-semester exam will be of one hour duration and will be closed book. It consists of both quantitative and theoretical questions.</td>
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<tr>
<td>Final Exam</td>
<td>50</td>
<td>Exam Period</td>
<td>The final exam provides an opportunity to assess higher capabilities in understanding and applying the knowledge learned throughout the semester. It will be of two hours duration in the formal exam period and will be closed book. The formal exam scripts may not be returned.</td>
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<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Total marks for the course</th>
<th>100</th>
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</thead>
</table>
check what you have submitted. Late work will be penalised at the rate of 20% of the total mark per calendar day after the due time and date have expired.

Satisfactory performance in all assessment components is necessary in order to achieve reasonable grades. A maximum total mark of 50% for the course may be given should a fail grade be obtained in any of the assessment components (irrespective of grades obtained in other assessment components).

The course convenor reserves the right to adjust by scaling the final marks given in each of the components where, looking at the marks given across the total undergraduate cohort, it is believed the original marking and/or assessment has been too harsh or too light.

### COURSE PROGRAM

#### SEMESTER 1, 2017

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Session</th>
<th>Topic</th>
<th>Assessment Due</th>
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<tbody>
<tr>
<td>1</td>
<td>3/3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>10/3</td>
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<td></td>
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<tr>
<td>3</td>
<td>17/3</td>
<td></td>
<td>Earthwork Planning</td>
<td>Group Formation</td>
</tr>
<tr>
<td>4</td>
<td>24/3</td>
<td></td>
<td>Earthmoving Teaching Laboratory</td>
<td>Individual Assignment</td>
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<tr>
<td>5</td>
<td>31/3</td>
<td></td>
<td>Concrete Form Design</td>
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<tr>
<td>6</td>
<td>7/4</td>
<td></td>
<td>Lifting Design</td>
<td>Individual Assignment</td>
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<tr>
<td>7</td>
<td>No Class</td>
<td></td>
<td>Field Trip Week</td>
<td></td>
</tr>
<tr>
<td>Break</td>
<td></td>
<td></td>
<td>Mid-Semester Break Fri 14/4 – Sun 23/4</td>
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<tr>
<td>8</td>
<td>28/4</td>
<td></td>
<td>Foundations</td>
<td>Mid-Semester Exam</td>
</tr>
<tr>
<td>9</td>
<td>5/5</td>
<td></td>
<td>Tunnelling (1/2)</td>
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<tr>
<td>10</td>
<td>12/5</td>
<td></td>
<td>Tunnelling (2/2)</td>
<td></td>
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<tr>
<td>11</td>
<td>19/5</td>
<td></td>
<td>Planning of Tunnel Construction</td>
<td>Group Assignment</td>
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<tr>
<td>12</td>
<td>26/5</td>
<td></td>
<td>Trenchless Techniques</td>
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<tr>
<td>13</td>
<td>2/6</td>
<td></td>
<td>Group Presentation</td>
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### RELEVANT RESOURCES

- There is no prescribed textbook for this course.
- There are numerous books in the library covering Construction Methods and Management. If you are having trouble following the lectures or understanding how a construction process works then it is recommended that you look at one of these.
- Additional materials provided on Moodle: [http://moodle.telt.unsw.edu.au](http://moodle.telt.unsw.edu.au)
DATES TO NOTE
Refer to MyUNSW for Important Dates available at:

https://student.unsw.edu.au/dates

PLAGIARISM
Beware! An assignment that includes plagiarised material will receive a 0% Fail, and students who plagiarise may fail the course. Students who plagiarise are also liable to disciplinary action, including exclusion from enrolment.

Plagiarism is the use of another person’s work or ideas as if they were your own. When it is necessary or desirable to use other people’s material you should adequately acknowledge whose words or ideas they are and where you found them (giving the complete reference details, including page number(s)). The Learning Centre provides further information on what constitutes Plagiarism at:

https://student.unsw.edu.au/plagiarism

ACADEMIC ADVICE
(Formerly known as Common School Information)
For information about:

- Notes on assessments and plagiarism,
- School policy on Supplementary exams,
- Special Considerations,
- Solutions to Problems,
- Year Managers and Grievance Officer of Teaching and Learning Committee, and
- CEVSOC.

Refer to Academic Advice on the School website available at:

https://www.engineering.unsw.edu.au/civil-engineering/student-resources/policies-procedures-and-forms/academic-advice