



CVEN9723 DESIGN OF CONSTRUCTION OPERATIONS

Semester 1, 2016

Never Stand Still

Faculty of Engineering

School of Civil and Environmental Engineering

COURSE DETAILS

Units of Credit	6	
Contact hours	3 hours per week	
Class	Tue, 15:00 – 18:00	Civil Engineering G1 (K-H20-G1)
Course Coordinator and Lecturer	Dr X Shen email: x.shen@unsw.edu.au office: Room 212, Civil Engineering Building H20 phone: 02 9385 0483	

COURSE COMMUNICATION

All communications on the course are to be through the Moodle's "Questions" section, or during the lecture. 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:

<http://www.handbook.unsw.edu.au/postgraduate/courses/2016/CVEN9723.html>

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	<ul style="list-style-type: none">• Review lecture material• Do set problems and assignments
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	<ul style="list-style-type: none"> • Join Moodle discussions of problems • Reflect on class problems and assignments • Download materials from Moodle • Keep up with notices and find out marks via Moodle
Lectures	<ul style="list-style-type: none"> • Find out what you must learn • Follow worked examples • Hear announcements on course changes • Practice solving set problems • Ask questions
Assessments	<ul style="list-style-type: none"> • Demonstrate your knowledge and skills • Demonstrate higher understanding and problem solving
Laboratory Work	<ul style="list-style-type: none"> • Hands-on work, to set studies in context

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 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 two group assignments, one mid-semester exam and one final exam.

Component	Number	Weight
Group Assignments	2	30% (15% each)
Mid-Semester Exam	1	20%
Final Exam	1	50%

The assignment will be done as group work. Each group can be up to 4 students. Detailed descriptions of the group assignments will be provided in Moodle.

The mid-semester exam will be of one hour duration and will be closed book. It consists of both quantitative and theoretical questions.

The final exam will be of two hours duration in the formal exam period and will be closed book. The formal exam scripts will not be returned. Students who perform poorly in the workshops, assignments and mid-semester exam are recommended to discuss progress with the lecturer during the semester.

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.

ASSIGNMENTS

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|----|---------------------|-----------------|--------------|
| 1. | Group Assignment 1: | issued on: 22/3 | due on: 19/4 |
| 2. | Group Assignment 2: | issued on: 26/4 | due on: 24/5 |

Submit the assignments in softcopy only via the Moodle by 14:00 of the specified due date. After submitting, always

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.

COURSE PROGRAM

SEMESTER 1, 2016

Week	Date	Session	Topic	Assessments Due
1	1/3	Heavy Civil Construction	Shoring Design	
2	8/3		Bracing Design	
3	15/3		Earthwork Planning	Group Formation
4	22/3		Earthmoving Teaching Laboratory	Laboratory Work
Break		Mid-semester Break (Fri 25/3 - Sun 3/4)		
5	5/4	No Class (Field Trip Week for Other Courses)		
6	12/4	Building Construction	Lifting Design	
7	19/4		Concrete Form Design	Group Assignment 1
8	26/4		Foundations	
9	3/5		Planning for Building Construction	Mid-semester Exam
10	10/5	Tunnel Construction	Tunnelling (1/2)	
11	17/5		Tunnelling (2/2)	
12	24/5		Trenchless Techniques	Group Assignment 2
13	31/5		Design of Tunnel Projects	

RELEVANT RESOURCES

Textbook

There is no prescribed textbook for this course.

Additional Readings

There are numerous books in the library covering Construction Methods and Project Management. If you are having trouble following the lectures or understanding how a construction operation works then it is recommended that you look at one of these.

Moodle

This course has a Moodle site: <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

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:

<http://www.engineering.unsw.edu.au/civil-engineering/resources/academic-advice>