



# CVEN9742 PROFESSIONAL CIVIL ENGINEERING

Semester 1, 2016

Never Stand Still

Faculty of Engineering

School of Civil and Environmental Engineering

## COURSE DETAILS

<b>Units of Credit</b>	6	
<b>Contact hours</b>	3 hours per week	
<b>Class</b>	Wednesday, 18:00 – 20:00	Room: CE G-01
<b>Workshop</b>	Wednesday, 20:00 – 21:00	Room: CE G-01
<b>Course Coordinator and Lecturer</b>	Mr Robert Holdom email: r.holdom@unsw.edu.au	

## INFORMATION ABOUT THE COURSE

This purpose of this course is to develop key skills that will enable a Civil Engineer to successfully deliver infrastructure projects that meet their clients' performance requirements and expectations. Those performance requirements and expectations are most often defined in terms of: 'schedule', 'cost', 'quality' and 'sustainability', and as such, the Civil Engineer is delving into project management issues. The course is designed to enable you to draw key focus towards identifying clients' needs, examining the project planning process and being able to recognise a project team's strength and weaknesses, the formation of teams and dealing with the associated people handling and development issues that unfold in the process and aspects of managing the estimating and tendering process. Additionally, you will be introduced to project costing and control measures and managing the work administration process. Weekly scheduled workshops will provide the opportunity for you to develop your skills across a wide scope of disciplines that are needed for the delivery infrastructure projects. There are no specific prerequisites for this course but it is assumed that students commencing this course have either an undergraduate degree in engineering or allied experience in civil construction operations. All communications shall be made using the course Moodle.

## HANDBOOK DESCRIPTION

The development of civil engineering infrastructure requires skills including that of planning, estimating, work administration, people handling and costing. These skills are crucial in order that infrastructure projects satisfy the clients' needs in terms of schedule, cost, quality and sustainability. The course explores some necessary skills required of a civil engineer.

<http://www.handbook.unsw.edu.au/postgraduate/courses/2016/CVEN9742.html>

## OBJECTIVES

The objectives of the course are to:

- Provide the student with an outline of key considerations in developing project management strategies that address the client's expectations of: 'schedule', 'cost', 'quality' and 'sustainability' in project delivery;
- Provide an outline of the key issues of: planning, estimating, work administration, people handling and costing associated with infrastructure delivery;
- Investigate state-of-the-art practices and techniques presently being employed in industry;
- Enabling the student to identify their preferences, strengths and weaknesses when working within a team; and
- Develop professional civil engineering practices that are ethically sound and sociably responsible.

In addition the course aims to foster:

- Capacity for analytical thinking and for creative problem solving;
- Ability to engage independent and reflective learning;
- Develop the skills for collaborative and multi-disciplinary work by working effectively in small teams;
- Information literacy; and,
- Skills for effective communication.

These objectives and course aims will be achieved using:

- Lectures and assigned readings;
- Workshops; and,
- Assessment Tasks (which includes a Final Examination)

## TEACHING STRATEGIES

This course will be presented as a series of lectures, each accompanied by additional reading material. Following each lecture, a workshop will be conducted for you to practice implementation of key knowledge acquired from the lecture. Specific teaching and learning strategies include:

<b>Private Study</b>	<ul style="list-style-type: none"> <li>• Download materials from UNSW Moodle</li> <li>• Review lecture material and additional reading</li> <li>• Complete all assignments</li> <li>• Do the set class problems</li> <li>• Join Moodle discussions of problems</li> <li>• Reflect on class problems and assignments</li> <li>• Keep up with notices and find out marks via Moodle</li> </ul>
<b>Lectures</b>	<ul style="list-style-type: none"> <li>• Find out what you must learn</li> <li>• Summarise essential course material from lectures and associated reading</li> <li>• Follow worked examples</li> <li>• Hear announcements on course changes</li> </ul>
<b>Workshops</b>	<ul style="list-style-type: none"> <li>• Be guided by Demonstrators</li> <li>• Practice solving set problems</li> <li>• Ask questions</li> </ul>
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Enhance you knowledge by undertaking necessary research to complete given tasks</li> <li>• Demonstrate your knowledge and skills</li> <li>• Demonstrate higher understanding and problem solving</li> <li>• Do not copy sections from textbooks or websites, always use appropriate references for sourced material</li> <li>• In preparing an assessment element pay particular attention to the instructional advice provided by the lecturer to maximise your mark</li> </ul>

*All course reading materials, course communications, student questions, Assignment and Report submissions, Assignment and Report grades (including feedback) will be made using the course Moodle.*

## EXPECTED LEARNING OUTCOMES

At the end of this course it is expected that students have either developed, or are able to:

- Interpret and determine what a client's expectation is in terms of: 'schedule', 'cost', 'quality' and 'sustainability' in project delivery;
- Understand the key issues associated with infrastructure delivery in dealing with: planning, estimating, work administration, people handling and costing;
- Recognise in themselves (and others), their contributing strengths and weaknesses in a work team;
- Understand the importance of conducting professional civil engineering practices that are ethically sound and socially responsible in the delivery of infrastructure projects.
- Be able to conduct independent research (which is student-centred and self-directed learning), in developing

- project delivery solutions that can be applied to a team in delivering infrastructure projects; and,
- Be able to communicate developed solutions concisely, by presenting their work as a written submission or verbally.

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

## ASSESSMENT

The final grade for this course will normally be based on the sum of the scores from each of the assessment tasks.

The Final Examination will constitute 40% of the overall course mark. The remaining 60% is comprised from three Assignments which are detailed below.

Students must actively project-manage their assignment work in order to gain a good mark in the major assignments. Students should expect to spend a significant amount of time with their team to develop their work. The assignments and the exam will test the students' ability to synthesise the overall course. All material presented during the semester will be examinable unless otherwise noted.

A mark of at least 40% in the final examination is required before the class work is included in the final mark. The formal exam scripts will not be returned. Students who struggle with the material set in workshops are recommended to discuss their progress with the lecturer during the session.

[Note: The lecturer reserves the right to adjust the final scores by scaling if agreed by the Head of School.]

## ASSIGNMENTS AND ASSESSMENT DETAILS

	Assessment details	Issue in	Marks	Due Date
1.	Reflective Journal of your learning	Week 2	25%	4 May
2.	Individual Assignment	Week 2	15%	13 Apr
3.	Class Presentation and Report	Week 2	20%	As per presentation schedule
4.	Final Examination	Exam Week	40%	See MyUNSW (about Week 10)

**NOTE:** Each Assessment Task is deemed an ESSENTIAL ITEM of the assessment.

*All assignments and reports are to be submitted by using the 'Turnitin' submission tool. All assignments and reports are to be submitted uploading onto the Moodle. No emailed copies will be accepted. Late submissions will receive a 10% deduction penalty per day. Late submissions up to 5 days late will be marked and will receive the appropriate penalty deductions. Any submissions that are more than 5 days late will not be accepted for marking.*

## COURSE PROGRAM

### SEMESTER 1, 2016

Week	Date	Topic	Assessments Due
1	2 Mar	Introduction to organisations and management Change Management and its impact to construction	

2	9 Mar	Defining a client's expectation  Identifying the factors that impact upon: 'schedule', 'cost', 'quality' and 'sustainability' in project delivery	
3	16 Mar	Project Management role in infrastructure projects Team formation, selection and leadership issues	
4	23 Mar	Factors impacting on project planning and estimates  The Value Management process	
-	30 Mar	<b>MID SEMESTER BREAK</b>	
5	6 Apr	<b>NO POSTGRADUATE CLASSES</b>	
6	13 Apr	Complex projects and multi-disciplinary teams  Managing risk within a project team	<b>Individual Assignment</b>
7	20 Apr	Managerial Control  Introduction to Project Control	
8	27 Apr	Managing personnel turnover and project impacts  Commissioning, completion and handover	
9	4 May	Marketing issues and maintaining industry relevance  Impacts in dealing with disruptive technologies	<b>Assessment 1 Reflective Journal</b>
10	11 May	Class Report and Presentations	As per presentation schedule
11	18 May	Class Report and Presentations	As per presentation schedule
12	25 May	Class Report and Presentations	As per presentation schedule
13	1 Jun	Class Report and Presentations	As per presentation schedule

#### RELEVANT RESOURCES

There are no set textbooks for this course. The lecturer will provide you with prescribed readings for each lecture topic.

- You are required within this course to undertake your own literature research. This should be discussed with the UNSW library staff as to how you can undertake independent research and find your resources.

**Other suggested academic and professional journals you should investigate in preparing your submissions:**

- Academy Journal of Management
- Academy of Management Review
- Asia Pacific Journal of Human Resource
- Harvard Business Review
- Journal of International Business Studies
- Journal of Management
- Management International Review
- The International Journal of Human Resources Management

**DATES TO NOTE**

Refer to MyUNSW for Important Dates available at:

<https://my.unsw.edu.au/student/resources/KeyDates.html>

**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:

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