

COURSE DETAILS

Units of Credit	6	
Contact hours	4 hours per week	
Class	Monday, 12:00 – 14:00	online
Workshop	Monday, 10:00 – 12:00	online
	Monday, 14:00 – 16:00	online
Course Coordinator and Lecturer	Mr Robert Holdom	
	email: robert.holdom@unsw.edu.au	
	office: CE211	
	phone: 02 9385 7773	

INFORMATION ABOUT THE COURSE

This course is available to all Civil Engineering students who are completing their final year of study in their four year undergraduate degree. CVEN4051 forms the second part of the Coursework Thesis program, and is completed in the semester after the completion of CVEN4050 Thesis A. The intention of Thesis B is to allow a student to complete an individual thesis topic of their choice from one of the Civil Engineering disciplines of: construction, geotechnical engineering, structures, transportation or water which is based upon the nominated project for the semester. Within Thesis B there are project management elements that engineering professionals would be required to address and these elements will be incorporated as part of the Thesis B submission. This will enable all students to develop understanding of how their work impacts upon others and will allow them to identify the key communication pathways that are required to be addressed in the development of engineering solutions being offered.

The selected topic for Term 2, 2021 is focused on issues associated in the development of the Western Sydney Airport that impact Local Government.

As the course will involve several submissions throughout the term, Thesis B will be completed incrementally which can be compiled by a student into a single thesis volume.

Prerequisite: 132 UOCs needed to enrol in this course.

Excluded: CVEN4032, CVEN4033, CVEN4040 &, CVEN4041.

HANDBOOK DESCRIPTION

This course is the second of two parts and is undertaken after the completion of CVEN4050 Thesis A, usually in the proceeding semester. The Thesis involves formulating the designs for and solution to open-ended civil and/or environmental engineering problems. The problems will be drawn from industry and will be multi-disciplinary involving application of material learnt throughout the undergraduate program and will require creative thought. The course will include the preparation of relevant professional documents.

<https://www.handbook.unsw.edu.au/undergraduate/courses/2021/CVEN4051/>

OBJECTIVES

The objective of this course is to provide students the opportunity to complete a project task that they might be expected to complete in their professional employment from one of the five key Civil Engineering disciplines offered under Thesis B. Students will be required complete their work individually but partake in discussion groups and a Workshop Presentation outline of their topic. Thesis B will build on the skills developed in any previous Civil Engineering Practice classes and include these attributes:

- An in-depth engagement with the relevant disciplinary knowledge in its inter-disciplinary context
- Capacity for analytical and critical thinking and for creative problem solving
- Ability to engage independent and reflective learning
- A respect for ethical practice and social responsibility
- Advocacy, negotiation and communication skills
- Leadership and member roles in group-related professional engineering project completion
- Ability to incorporate related social, political, environmental and economic issues within technical engineering based solution options to community sensitive projects
- Undertake and execute a self-contained applied research report which may be understood and used by others with a technical background in the same discipline area as the topic.

TEACHING STRATEGIES

The teaching strategies that will be used and their rationale:

Private Study	<ul style="list-style-type: none">• Review lecture material and seek out support reference materials to their topic• Develop your personal timetable to complete the Thesis B submissions requirements on time• Do set problems and assignments• Check the course Moodle and your e-mail regularly for messages and notices• Reflect on Workshop discussions in preparing Thesis B submission elements• Download materials from Moodle• Find out marks via Moodle
Lectures	<ul style="list-style-type: none">• Find out what you must research, learn and deliver• Hear announcements on course changes
Workshops	<ul style="list-style-type: none">• Be guided by Demonstrators• Resolve group and individual problems and set tasks• Ask questions• Practice solving set problems/ follow Demonstrator guidance in preparing

	Thesis B submission elements <ul style="list-style-type: none"> • Meet the timely submission requirements required by your Demonstrator • Ask questions
Assessments	<ul style="list-style-type: none"> • Demonstrate your knowledge and skills • Demonstrate higher understanding and problem solving • Demonstrate presentation and documented reporting skills

EXPECTED LEARNING OUTCOMES

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

Learning Outcome	EA Stage 1 Competencies
1 Undertake and execute a self-contained applied research project	1.1->1.6 2.1-2.4, 3.1, 3.2, 3.4
2 Assess relevant disciplinary knowledge and acknowledge its interdisciplinary context within a literature review and/or project	1.3, 2.3, 1.5, 1.6, 3.5, 3.6
3 Demonstrate a capacity for analytical and critical thinking to create a novel solution considering related technical, social, political, environmental and economic issues	1.2->1.6, 2.1-2.4
4 Demonstrate effective written and/or verbal communication skills in professional and lay domains.	3.2, 3.4, 3.5, 3.6
5 Ability to engage independent and reflective learning	3.1, 3.2, 3.3, 3.4
6 A respect for ethical practice and social responsibility	1.5, 1.6, 3.1

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

COURSE PROGRAM

In commencing Thesis B the lectures will be presented by Mr Robert Holdom. All lectures and workshops will be delivered online throughout Term 2, 2021.

Guest Lecturers may be sought to present throughout the term to deliver topics that may assist students in the preparation of Thesis B, or develop other skills to prepare students entering the profession.

Note: All students are required to review the weekly Lecture material and all students are required to attend their allocated online Workshop which will commence from Week 1.

The Workshops are scheduled in two 2-hour timeslots either preceding or following the lecture. Students are required to enrol into a nominated Workshop group and attend that Workshop weekly. Based on the current course enrolments, the Workshop groups are restricted to a maximum of 20 persons and within each group. Your Demonstrator may choose to allocate you into sub-group teams of between 4 and 5 students.

It is a course requirement that every student is available each week to discuss Thesis B progress with their Demonstrator. You will receive from your Demonstrator, feedback and advice in the preparation of Thesis B. Take heed of the advice as your Demonstrator is one of the markers of your Thesis B submission.

[Demonstrators have a requirement to keep record of their Workshop attendances each week.](#)

Term 2, 2021

Date	Topic and Lecture Content	Demonstration Content
31/05/2021 (Week 1)	Course Introduction Introduction to Western Sydney Airport Thesis preparation and Literature Search commencement	Workshop commences in Week 1. Students to discuss the topic options with their Demonstrator. Commence Assessment Task 1
07/06/2021 (Week 2)	Lecture content TBA	Workshop commencement Finalise Assessment Task 1 Commence Assessment Task 2
14/06/2021 (Week 3)	Queen's Birthday Public Holiday on Monday 14th June, 2021. No class.	No class. Students to continue with Assessment Task 1 and consult with your Demonstrator using Moodle Submit Assessment Task 1
21/06/2021 (Week 4)	Lecture content TBA	Continue Assessment Task 2
28/06/2021 (Week 5)	Lecture content TBA	Submit Assessment Task 2 Commence Assessment Tasks 3 and 4
05/07/2021 (Week 6)	Flexibility week for all courses (non-teaching) No class.	No class.
12/07/2021 (Week 7)	Lecture content TBA	Presentation slides due before Workshop Presentations commence. Workshop Presentations for Assessment Task 3 commence. Continue Assessment Task 4
19/07/2021 (Week 8)	Lecture content TBA	Workshop Presentations for Assessment Task 3 continue. Continue Assessment Task 4
26/07/2021 (Week 9)	Lecture content TBA	Workshop Presentations for Assessment Task 3 continue. Continue Assessment Task 4
02/08/2021 (Week 10)	Lecture content TBA Thesis finalisation guidance and course wrap-up.	Submit Assessment Task 4

ASSESSMENT

There will be NO formal examination for Thesis B. Instead, the final mark and grade for this course will be determined based on the aggregated scores from each of the four (4) assessment tasks.

Assessment Task 1 (individual submission) – Topic Nomination and Thesis Plan (5%) – due Week 3

Assessment Task 2 (individual submission) – Literature Search submission (20%) – due Week 5

Assessment Task 3 (individual submission) – Presentation in Workshop (20%) – slides due Week 7

– presented on either: Week 7 or, Week 8 or, Week 9 as assigned by your Demonstrator

Assessment Task 4 (individual submission) – Abstract (5%) and Final Report (50%) – due week 10

Your Final Mark for Thesis B will be aggregated total of all Thesis B assessment tasks. The Final Grade for Thesis B is as per the university's Mark/ Grade scale. The Thesis B document is to conform to the guidelines given to you throughout the Term. You will not be required to submit a printed copy of your compiled Thesis B. However, you should be considering doing the same so that you can take the document to an employment/ job interview.

Your Assessment Task submissions will be marked by your Workshop Demonstrator and separately by another marker. This is to maintain quality standards across the course and within each Workshop.

Students who perform poorly in any of the Assessment Tasks outlined in the Assessment Overview are recommended to discuss their progress firstly with their assigned Demonstrator or with the Lecturer at the first available opportunity (within a week) during the term on receipt of that poor performance.

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

Whilst not applicable to students completing CVEN4051 Thesis B, please note: Supplementary Examinations for Term 2, 2021 will be held between Monday 6th September 2021 – Friday 10th September 2021 (inclusive), should you be required to sit one. You are required to be available during these dates. Please do not to make any personal or travel arrangements during this period.

PENALTIES

As outlined in the Assessment Overview, there is no provision being allowed for late submissions in Thesis B. Students should consider that this course operates as does business, in that SET DEADLINES have to be met. You are thereby advised to plan and use your time wisely in preparing your work in meeting the deadlines.

					<p>Week 8 (19Jul2021) or</p> <p>Week 9 (26Jul2021) as assigned by your Demonstrator</p>	
<u>Assessment Task 4</u>			1, 2, 3, 4, 5, 6	<p>Thesis B document is to be presented as an <i>Engineering Report</i> and will contain an additional <i>Abstract</i> and will be marked accordingly:</p> <p>The Abstract will be marked separately: 5 marks.</p> <p>Executive Summary: 5 marks</p> <p>Written Presentation: 6 marks</p> <p>Background information: 5 marks</p> <p>Quality of Work and Discussion of Results: 24 marks</p> <p>Conclusion & value added: 10 marks</p>	<p>Before 17:00h 05 August, 2021 <i>Upload to Moodle</i></p> <p>There will be two submission portals opened for:</p> <p>a. Abstract</p> <p>b. Final Report</p>	Post course
a. Abstract	300 words limit	5%				
b. Final Report	30 pages (guide)	50%				

RELEVANT RESOURCES

There are no prescribed texts for Thesis B

The lecturer may provide you with prescribed readings for each lecture topic and:

- You are required to conduct your own Literature research in completing CVEN4050 Thesis B. This should be discussed with your Demonstrator and the UNSW library staff by making an online inquiry as to how you can undertake independent research and find your resources.
- Additional materials provided on Moodle.
- Recommended Internet sites.

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;
- Special Considerations: student.unsw.edu.au/special-consideration;
- General and Program-specific questions: [The Nucleus: Student Hub](#)
- Year Managers and Grievance Officer of Teaching and Learning Committee, and
- CEVSOC/SURVSOC/CEPCA

Refer to Key Contacts on the Faculty website available at:

<https://www.unsw.edu.au/engineering/student-life/student-resources/key-contacts>

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

	Program Intended Learning Outcomes
PE1: Knowledge and Skill Base	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge
	PE1.4 Discernment of knowledge development and research directions
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
PE2: Engineering Application Ability	PE2.1 Application of established engineering methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources
	PE2.3 Application of systematic engineering synthesis and design processes
	PE2.4 Application of systematic approaches to the conduct and management of engineering projects
PE3: Professional and Personal Attributes	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (professional and lay domains)
	PE3.3 Creative, innovative and pro-active demeanour
	PE3.4 Professional use and management of information
	PE3.5 Orderly management of self, and professional conduct
	PE3.6 Effective team membership and team leadership