

CVEN9051 MASTERS PRACTICE PROJECT B

COURSE DETAILS

Units of Credit	6	
Contact hours	4 hours per week	
Lecture	Friday, 2:00 – 4:00pm	Online
Workshop	Friday 12:00 – 2:00pm OR Friday 4:00 – 6:00pm	Online Online / face to face to be advised
Course Coordinator and Lecturer	Dr Ruth Fisher Email: ruth.fisher@unsw.edu.au office: Rm205, H20	
Lecturer	Dr James Hayes email:j.e.hayes@unsw.edu.au office: email to make appointment	

INFORMATION ABOUT THE COURSE

This course is available to students in the Masters of Engineering 8621 program specialising in Civil or Environmental Engineering. CVEN9051 forms the second part of the Coursework Thesis program, and is completed in the semester after the completion of CVEN9050 Thesis A. In preparing your thesis topic in Thesis B for CVEN9051 you are able to select and nominate a Civil and/or Environmental Engineering topic that is of significant interest to you. Your topic may be associated with core elements such as Structural Design, Water and Hydraulics, Geotechnical Engineering, Transportation, Construction or Sustainability. Within Thesis B there are also 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. Consider the utility of your thesis topic in terms of your future career, either by re-inforcing and presenting your skills in a chosen field, or by experiencing and developing capabilities in a new area.

The Theme for Thesis B will be improving liveability in your neighbourhood. You will identify a problem, explore current practices or guidelines and propose a site specific solution.

Your thesis is a requirement for your degree, however it also presents an opportunity to explore areas of interest and demonstrate expertise when advancing in your profession

As the course will involve several submissions throughout the semester, Thesis B will be completed incrementally with guidance provided at each stage.

HANDBOOK DESCRIPTION

See link to virtual handbook:

<https://www.handbook.unsw.edu.au/undergraduate/courses/2021/CVEN9051/>

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 key Civil Engineering disciplines. Students will be required to 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 Thesis A 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. Give some suggested approaches to learning in the course.

(An example of the approaches to learning are)

Private Study	<ul style="list-style-type: none">• Review lecture material• Reflect on class problems and assignments• Conduct independent research• 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• Hear announcements on course changes
Workshops	<ul style="list-style-type: none">• Be guided by Demonstrators• Participate in group discussions and co-learning• Ask questions and clarify understanding• Follow Demonstrator guidance in preparing Thesis B submission elements• Submit formative tasks during workshop sessions.
Assessments	<ul style="list-style-type: none">• Demonstrate your knowledge and skills• Demonstrate higher understanding and problem solving• Demonstrate professional level presentation and 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 inter-disciplinary 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

The delivery of CVEN9051 will be styled around the traditional lecture delivered to the whole cohort and then splitting into separate workshop groups to conduct peer learning and one-on-one engagement with the allocated demonstrator. The lecture will be delivered online, with time set aside for general questions relating to the course delivery. The workshops will be delivered via online or face to face sessions and students will work with one demonstrator throughout the semester.

Term 2 2021

Week	Date	Lecture Content	Demonstration Content	Assessments
Week 1	4/06/2021	What is a problem statement and how to plan research <i>Ruth Fisher</i>	Scoping your research area	
Week 2	11/06/2021	Endnote, ethics and conducting research <i>James Hayes</i>	Defining your research question	
Week 3	18/06/2021	How to write a literature review <i>James Hayes</i>	How to structure your literature review	Task 1 due
Week 4	25/06/2021	Refining your topic and Presenting your research (written) <i>Ruth Fisher</i>	Identifying research gaps	
Week 5	2/07/2021	Presenting your research (Verbal) <i>James Hayes</i>	Planning your research	
Week 6	9/07/2021	Flexibility week for all courses (non-teaching)		

Week 7	16/07/2021	Consultations Both – book in for sessions	Presentations + Peer Review	Task 2 due Task 3 due*
Week 8	23/07/2021	Consultations Both – book in for sessions	Presentations + Peer Review	Task 3 due*
Week 9	30/07/2021	Communicating technical information Ruth Fisher	Presentations + Peer Review	Task 3 due*
Week 10	6/08/2021	Being a Professional Engineer TBA	Editing clinic	
Week 11				Task 4 due
* Timing for in-workshop presentations will be determined in Week 2				

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 (5%) - Proposal/Problem Statement
- Assessment Task 2 (20%) - Literature Review
- Assessment Task 3 (25%) – Presentation and Peer Marking
- Assessment Task 4 (50%) – Final Report

The assessments for Thesis A are staged so that there are periodic assessments for different stages of the project. The staged approach provides students with summative feedback in order to improve and refine techniques and performance throughout the course.

Throughout the term there will be submissions made during the workshop sessions, these are formative and will not constitute a mark. Students who perform poorly in these (for more than a fortnight) are required to talk to the lecturer about their progress.

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 semester 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.]

Details of each assessment component, the marks assigned to it, the criteria by which marks will be assigned, and the dates of submission are set out below.

PENALTIES

Late work will be penalised at the rate of 10% per day after the due time and date have expired.

ASSESSMENT OVERVIEW

Item	Length	Weighting	Learning outcomes assessed	Assessment Criteria	Due date and submission requirements	Marks returned
1. Proposal / Problem Statement	2 pages (max)	5%	1, 3	Details regarding chosen project including; what is the problem; why are you attempting to solve/investigate it; your initial approach; and timeline. Marks will be allocated on ease of comprehension and feasibility.	Thursday 17 th June 11:59 PM (Week 3) Via Moodle	25 th June (Week 4)
2. Literature Review	10 pages (max)	20%	2	Critical evaluation of key literature in your chosen topic. Your literature review should synthesize the available knowledge of your topic while identifying key research gaps.	Monday 12 th July 11:59 PM (Week 7) Via Moodle	26 th July (Week 9)
3. Presentation and Peer Marking	Present ation 15 minutes	20% 5%	4	Oral presentation of your research topic to your instructors and peers during the workshop session in Weeks 7, 8, 9. 5% will be allocated to the peer review.	During workshop sessions in Weeks 7-9. (<i>Sessions will be allocated by Week 2</i>)	2 weeks after completion (until 6 th August)
4. Final Report	30 pages (max)	50%	1, 2, 3, 4	Formal written report containing an executive summary, introduction, literature review, methods, key findings, conclusions, and recommendations. A one page communications summary will also be required.	Wednesday 11 th August 11:59 PM (Week 11) Via Moodle	At end of semester

RELEVANT RESOURCES

- Additional materials provided on Moodle.
- Please refer to
 - UNSW Academic Skills <https://student.unsw.edu.au/skills>

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