



# School of Civil and Environmental Engineering

Term 1, 2022

## CVEN4050

### Thesis A

#### COURSE DETAILS

Units of Credit	6	
Contact hours	4 hours per week	
Class	Monday, 14:00 – 16:00	On-line
Workshop	Monday, 12:00 – 14:00 Monday, 16:00 – 18:00	On-line or Room/s: TBA (see Moodle) On-line or Room/s: TBA (see Moodle)
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, Environmental Engineering and Surveying students who are completing their final year of study in their four year undergraduate degree. CVEN4050 forms the first part of the Coursework Thesis program, with CVEN4051 Thesis B, following this course in a later term. The intention with this course is to bring focus to the student about what they need to prepare for themselves to become ready for employment. The Thesis A topic is presented to the student as it would be in industry and each student is required to prepare an individual Thesis submission by way of an Engineering Report that contains all of the elements required within the Assessment Overview.

The selected topic for Term 1, 2022 is focused on Façade and Fire Design issues (including Wind Design).

As the course will involve several submissions throughout the term, Thesis A wThe final submission of Thesis A will be as a si

Prerequisite: 132 UOCs needed to enrol in this course.

Excluded: CVEN4032, CVEN4033, CVEN4040, CVEN4041, CVEN4951, CVEN4952, CVEN4953.

## HANDBOOK DESCRIPTION

This course is the first of two parts and is undertaken before CVEN4051 Thesis B, usually in the proceeding term. 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. Part A involves the formulation of a project plan, project brief and documents and involves review of various literature.

<https://www.handbook.unsw.edu.au/undergraduate/courses/2022/CVEN4050/>

## OBJECTIVES

List the objectives of the course.

Link the objectives with the program outcome attributes and the assessment strategies for this course. In other words, how do the assessment strategies assist in achieving these objectives, and how do the objectives contribute to achievement of program outcome attributes?

List of programme attributes:

## 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. Apply the concepts in the analysis and construction methods used in the placement of a different building Façades.	PE1.1, PE1.2, PE1.3, PE1.5, PE2.2, PE2.3
2. Apply the concepts used in nominating and selecting materials for the construction for the control of fire in buildings and engineering structures.	PE1.1, PE1.2, PE1.3, PE1.5, PE2.2, PE2.3
3. Be able to pass critique on existing structures concerning façade and fire related matters.	PE2.1, PE3.1, PE3.2, PE3.5,

Date	Topic and Lecture Content	Demonstration Content
14/02/2022 (Week 1)	Course Introduction Introduction to building facades Outline of Thesis A requirements Your employment – preparing your Resume	Workshop finalisation Commence Assessment Task 1
21/02/2022 (Week 2)	Weatherproofing structures and cladding systems Construction overview 21	Continue with Assessment Task 1

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PENALTIES

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ASSESSMENT OVERVIEW

Item	Length	Weighting	Learning outcomes assessed	Assessment Criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
1. <u>Façade Engineering</u> a. Site Inspection Report	Appendix submission	1%	1, 2, 3 & 4	Separate submissions for each of: 1a & 1b. These submissions will be appendices within Thesis A.	Before 1700h 10 March 2022 Upload to Moodle	There are no extensions on any of these elements, so the posted due dates are final.	Week 4
b. Site Inspection Report	Appendix submission	9%			Before 1700h 17 March 2022 Upload to Moodle		Week 6
2. <u>Fire Engineering</u> Site Inspection Report	Appendix submission	20% + 10% of 4.	1, 2, 3 & 4	Single submission for Item 2. This submission will be an appendix within Thesis A.	Before 1700h 24 March 2022 Upload to Moodle		Week 8
3. <u>Design Report</u> Façade & Fire (including wind design)	Appendix calculations	20% + 10% of 4.		Single submission for Item 3. This submission will be an appendix within Thesis A.	Before 1700h 07April 2022 Upload to Moodle		Week 10
4. <u>Thesis Submission Documents</u>	Item 2 Item 3	50% total: 10% * 10% *	1, 2, 3 & 4	Marked when Item 2 is submitted Marked when Item 3 is submitted	10 March 2022 24 March 2022		Week 8 Week 10
<u>Final Thesis A Document</u>	8 pages, plus Appendix provisions	30%		The Thesis A document is to be presented as an Engineering Report and will be marked accordingly: Executive Summary: 10% Presentation/ content: 10% Writing/ reference quality: 10%	Before 17:00h 21 April 2022 Upload to Moodle		Post course



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