

# CVEN9050

Masters Practice Project A

Term 2, 2022



## Course Overview

### Staff Contact Details

#### Convenors

| Name            | Email  | Availability | Location                                    | Phone          |
|-----------------|--|--------------|---|----------------|
| Mitchell Harley | <a href="mailto:m.harley@unsw.edu.au">m.harley@unsw.edu.au</a> |              | UNSW Water Research Laboratory (Manly Vale) | (02) 8071 9883 |

#### Lecturers

| Name        | Email  | Availability | Location  | Phone |
|-------------|--|--------------|-----------|-------|
| James Hayes | <a href="mailto:j.e.hayes@unsw.edu.au">j.e.hayes@unsw.edu.au</a> |              | H22 Rm305 |       |

### School Contact Information

[Engineering Student Support Services](#) – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries e.g. admissions, fees, programs, credit transfer

#### Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

## Course Details

### Units of Credit 6

### Summary of the Course

This course is a core research enquiry course for students in 8621 Master of Engineering and 8338 Master of Engineering Science programs. This is the first part of the coursework project, with CVEN9051 Masters Practice Project B, following this course in a later term. This course enhances the student's skills for undertaking scholarly enquiry by attempting to achieve a specific topic objective within a defined period of time. A significant component of the course relates to the review of literature, which promotes independent and reflective learning as well as increases students' capacity to develop information literacy. The project work is expected to reinforce the student's ability and confidence in the written communication of technical information. The intention with this course is to bring into focus the skills needed to investigate real life projects. The Masters Practice Project A topic is presented to the student as it would be in industry and each student is required to prepare an individual submission by way of an Engineering Report that contains all of the elements required within the Assessment Overview. Topics are related to industry projects selected from contemporary practice. The work involves industry based investigations and design applications.

**The selected theme for T2 and T3 2022 is Liveable and Resilient Neighbourhoods.**

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

### Course Aims

This course enhances the student's skills for undertaking scholarly enquiry by attempting to achieve a specific topic objective within a defined period of time. A significant component of the course relates to the review of literature, which promotes independent and reflective learning as well as increases students' capacity to develop information literacy. The thesis is expected to reinforce the student's ability and confidence in the written communication of technical information.

Thesis A will build on the skills developed in previous practice related subjects and address programme 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
- Information literacy
- Skills for collaborative and multi-disciplinary work
- A respect for ethical practice and social responsibility
- Skills for effective communication

### Course Learning Outcomes

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

| <b>Learning Outcome</b>   | <b>EA Stage 1 Competencies</b>    |
|---|-----------------------------------|
| 1. Assemble comprehensive and reliable data as part of a research project   | PE1.5, PE2.2, PE2.4, PE3.1, PE3.4 |
| 2. Appraise and critique an aspect of an infrastructure system via a thorough literature review   | PE1.3, PE1.4, PE1.6, PE2.1, PE2.2 |
| 3. Demonstrate critical thinking and research skills such as compiling a literature review, conducting a critique and participating in critical discussions relating to the role of civil and environmental engineers | PE1.3, PE1.4, PE1.5               |
| 4. Apply engineering principles, such as risk management, decision making and design to identify and investigate real-world problems  | PE1.2, PE2.1, PE2.4, PE3.4        |
| 5. Student will demonstrate professional level written and verbal skills through the production of a self-contained technical report and presentation   | PE3.1, PE3.2, PE3.4, PE3.5, PE3.6 |

## Teaching Strategies

The Masters Practice Project A produces an individual enquiry based report in which each student works under the guidance of academic staff with input from industry specialists. Students will have adequate opportunities to receive individual advice and mentoring. Topics are related to industry projects selected from contemporary practice. Topics are related to industry projects selected from contemporary practice. The work involves industry based investigations and design applications.

The teaching strategies that will be used and their rationale.

|                      |  |
|----------------------|--|
| <b>Private Study</b> | <ul style="list-style-type: none"> <li>• Review lecture material and supplied documentation</li> <li>• Do set problems and assignments</li> <li>• Reflect on class problems and assignments</li> <li>• Download materials from Moodle and find own sources where required</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>• Engage with guest lecturer presentations</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>• Participate in group discussions and co-learning</li> <li>• Ask questions and clarify understanding</li> </ul>  |
| <b>Assessments</b>   | <ul style="list-style-type: none"> <li>• Demonstrate your knowledge and skills</li> <li>• Demonstrate higher understanding, critical thinking and problem solving</li> <li>• Demonstrate presentation and reporting skills to a professional level</li> </ul>  |

## Assessment

| Assessment task             | Weight | Due Date            | Course Learning Outcomes Assessed |
|-----------------------------|--------|---------------------|-----------------------------------|
| 1. Casestudy Identification | 20%    | 19/06/2022 11:59 PM | 1, 2, 5                           |
| 2. Presentation             | 15%    | 15/07/2022 09:00 AM | 1, 2, 4, 5                        |
| 3. Peer Review/Critique     | 15%    | 24/07/2022 11:59 PM | 3, 5                              |
| 4. Engineering Report       | 50%    | 07/08/2022 11:59 PM | 1, 2, 3, 4, 5                     |

### Assessment 1: Casestudy Identification

**Assessment length:** 2 pages of written text, 1 page of figures/tables

**Submission notes:** Through Turnitin

**Due date:** 19/06/2022 11:59 PM

Students are required to define and compile information relating to the casestudy area they will investigate this semester.

[**Comment:** Whilst marking is progressive across a Term, a student can assemble the elements in Practice Project Report A into a single *Engineering Report* document they can present to others (at say, an interview)].

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

#### Additional details

See Moodle for details

### Assessment 2: Presentation

**Assessment length:** 5 minute video presentation

**Submission notes:** Through the workshop tool on Moodle

**Due date:** 15/07/2022 09:00 AM

Students will present their findings on an allocated topic on a video presentation. Topics will be allocated from one of three chapter themes two weeks before (01/07/2022). Videos will be shown during the workshop and questions asked. The presentation will be assessed based on the oral fluency, content and clarity of the presentation.

#### Additional details

Chapter drafts must be submitted by each student along with their presentations for Assessment 2. See Moodle for details

### Assessment 3: Peer Review/Critique

**Due date:** 24/07/2022 11:59 PM

Students will be graded on how well they review and provide feedback to three peers on their written chapter drafts

#### **Additional details**

Chapter drafts must be submitted by each student along with their presentations for Assessment 2. See Moodle for details

### **Assessment 4: Engineering Report**

**Assessment length:** 10-20 pages

**Submission notes:** Through Turnitin

**Due date:** 07/08/2022 11:59 PM

This final report will compile the previous work into one complete document evaluating aspects of liveability and resilience of local neighbourhoods. The main feature will be an Executive Summary, content of the 3 themes explored in the workshops, as well as identification of future opportunities and research areas.

Marks will also be allocated relating to the professional presentation of the whole document.

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

#### **Additional details**

See Moodle for details

## Attendance Requirements

Students are strongly encouraged to review all lecture material. Attendance at workshops is required. Contact Course Authority in writing if more than one workshop will be missed. Attendance at the Week 7 presentation session is compulsory.

## Course Schedule

[View class timetable](#)

### Timetable

| Date                      | Type            | Content   |
|---------------------------|-----------------|---|
| Week 1: 30 May - 3 June   | Lecture         | This lecture will be held face-to-face, attendance is encouraged. All subsequent lectures will be online/asynchronous.<br><br>Introduction to the semester, Liveability |
|                           | Workshop        | What is liveability to you, Being a professional engineer   |
| Week 2: 6 June - 10 June  | Workshop        | Defining your Research area, Report writing   |
|                           | Online Activity | Infrastructure<br><br>Report Writing, Presenting an argument  |
| Week 3: 13 June - 17 June | Workshop        | Research Materials<br><br>Chapter theme 1   |
|                           | Online Activity | Documentation and data quality<br><br>Walkability and Liveable cities   |
|                           | Assessment      | Case study Identification due<br><br>Sunday 19th June 11:59 PM  |
| Week 4: 20 June - 24 June | Workshop        | OH&S, Reading journal papers<br><br>Chapter theme 2   |
|                           | Online Activity | Accessibility<br><br>Health and Safety  |
| Week 5: 27 June - 1 July  | Workshop        | Blue-green infrastructure<br><br>Chapter theme 3  |
|                           |                 |   |

|                              |                 |   |
|------------------------------|-----------------|---|
|                              | Online Activity | Environmental quality<br>Critical and Systems thinking  |
| Week 6: 4 July - 8 July      |                 |   |
| Week 7: 11 July - 15 July    | Lecture         | Presentation and questions                              |
|                              | Workshop        | Presentation and questions                              |
|                              | Assessment      | Presentation and Chapter Draft<br>Friday 15th July 9 AM |
|                              | Online Activity | Peer Review and Critiquing                              |
|                              | Assessment      | Presentation: Through the workshop tool on Moodle       |
| Week 8: 18 July - 22 July    | Online Activity | Project Planning  |
|                              | Assessment      | Peer Review Sunday 24th July 11:59 PM                   |
| Week 9: 25 July - 29 July    | Online Activity | Learning from Feedback, Editing                         |
|                              | Workshop        | Questions and Consultations                             |
| Week 10: 1 August - 5 August | Online Activity | Executive Summaries and Reflective practice             |
|                              | Workshop        | Editing and Proof Reading<br>Research Ideas             |
|                              | Assessment      | Final Report<br>Sunday 7th August 11:59 PM              |



## Resources

### Prescribed Resources

- Weekly online learning modules are provided on Moodle instead of online lectures
- Resources relating to the preparation of Engineering Reports and scientific writing can be found at iWrite <http://iwrite.unsw.edu.au/iwrite/ENGINEERING/Getting-Started/For-Students.html>
- Additional readings will be provided on Moodle.

### Course Evaluation and Development

Based on Student Feedback in previous years, the number of assessments has been reduced. Flipped learning has been initiated with asynchronous lecture materials being delivered online and realtime workshops. This was initiated to streamline information delivery and student engagement.

## **Submission of Assessment Tasks**

Please refer to the Moodle page of the course for further guidance on assessment submission.

**UNSW has a standard late submission penalty of:**

- 5% per day, for all assessments where a penalty applies, capped at five days (120 hours), after which a student cannot submit an assessment, and no permitted variation.

## Academic Honesty and 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 Information

### Final Examinations:

Final exams in T2 2022 will be held online between 12th - 25th August 2022 inclusive, and supplementary exams between 5th - 9th September 2022 inclusive. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

### ACADEMIC ADVICE

- Key Staff to Contact for Academic Advice (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/key-staff-to-contact-during-your-studies-at-unsw>
- [Key UNSW Dates](#) - eg. Census Date, exam dates, last day to drop a course without academic/financial liability etc.
- CVEN Student Intranet (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/student-intranet>
- Student Life at CVEN, including Student Societies: <https://www.unsw.edu.au/engineering/civil-and-environmental-engineering/student-life>
- Special Consideration: <https://student.unsw.edu.au/special-consideration>
- General and Program-Specific Questions: [The Nucleus: Student Hub](#)
- Book an Academic Advising session: <https://app.acuityscheduling.com/schedule.php?owner=19024765>

## Disclaimer

*This course outline sets out description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle should be consulted for the up to date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline (as updated in Moodle), the description in the Course Outline/Moodle applies.*

## Image Credit

Mike Gal.

## CRICOS

CRICOS Provider Code: 00098G

## Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.

## Appendix: Engineers Australia (EA) Professional Engineer Competency Standard

| Program Intended Learning Outcomes  |   |
|---|---|
| Knowledge and skill base  |   |
| PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline |   |
| PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline          | ✓ |
| PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline  | ✓ |
| PE1.4 Discernment of knowledge development and research directions within the engineering discipline  | ✓ |
| PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline  | ✓ |
| PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline                             | ✓ |
| Engineering application ability   |   |
| PE2.1 Application of established engineering methods to complex engineering 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  | ✓ |
| Professional and personal attributes  |   |
| PE3.1 Ethical conduct and professional accountability   | ✓ |
| PE3.2 Effective oral and written communication in 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   | ✓ |