



# **CVEN9451**

## **Masters Project A**

Term One // 2021

## Course Overview

### Staff Contact Details

#### Convenors

Name	Email	Availability	Location	Phone
Elena Atroshchenko	e.atroshchenko@unsw.edu.au	by e-mail/MS teams request	CE607	MS Teams

### 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

### Credit Points 4

### Summary of the Course

Masters Project provides an opportunity for you to bring together engineering principles learned over your previous years of study and apply these principles to innovatively solve problems such as the development of a specific design, process and/or the investigation of a hypothesis. Master projects are complex, open-ended problems that allow room for your creativity, and the acquisition, analysis, and interpretation of results. There are multiple possible solutions or conclusions at the outset and sufficient complexity to require a degree of project planning. The thesis requires you to formulate problems in scientific or engineering terms, manage a technical project and find solutions by applying scientific and engineering methods. You will also develop the ability to work in a research and development environment. You must identify a supervisor and project prior to enrolling in this course. This is the first course of the 3-course research thesis structure.

### Course Aims

Masters Project is an individual project in which each student works under the guidance of a nominated member of the academic staff (supervisor). A co-supervisor may also be nominated depending on the set up of the project (e.g. an employer could be a co-supervisor in an external thesis project). The work may involve laboratory experiments, field or industry-based investigations, design applications or theoretical research.

Masters Project aims to provide students with the opportunity to:

- Undertake and execute an academic research project;
- Produce a self-contained research thesis, which may be understood and used by others with technical background knowledge in the same discipline area as the thesis topic, and may potentially be suitable for publication;
- Present their research in a seminar or a video presentation.

### Course Learning Outcomes

1. Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
2. Critically reflect on a specialist body of knowledge related to their thesis topic.
3. Apply scientific and engineering methods to solve an engineering problem.
4. Analyse data objectively using quantitative and mathematical methods.
5. Demonstrate oral and written communication in professional and lay domains.

### Teaching Strategies

The course is taught as an individual research project, to develop a level of research skills and autonomy. In the project, each student works under the guidance of a nominated member of the academic staff (supervisor). A co-supervisor may also be nominated depending on the setup of the project (e.g. an employer could be a co-supervisor in an external thesis project). The work may involve

laboratory experiments, field- or industry-based investigations, design applications, or theoretical research.

### **PRIVATE STUDY**

- As a rough guide only, an average student would be expected to spend approximately 10 hours per week on work related to this course.
- More guidance is needed initially from the supervisor when the topic is being defined to establish the objectives and methodology of the thesis.

### **SUPERVISION**

- There are no specific hours assigned to this course, except for the scheduled Lunchtime Workshops (see below).
- Meetings between the supervisor(s) and the student may take place periodically or by private arrangement.
- Should supervisors be on study leave or unavailable for a considerable period of the session, alternative arrangements need to be established and made known to both the student and course coordinator.

### **CONSULTATION**

- The course coordinator will be available by prior appointment to liaise with enrolled students as needed.

IT IS ESSENTIAL THAT YOU REGULARLY CHECK YOUR OFFICIAL UNSW EMAIL FOR UPDATES, REMINDERS, ETC.

## **Additional Course Information**

This course is in three parts. Masters Project A is undertaken in the first term of enrolment. Masters Project A is a prerequisite for Masters Project B and Masters Project B is a prerequisite for Masters Project C.

By default, students must ordinarily take Masters Project A, B and C in each consecutive term.

With School permission, students may request to take Masters Project A in one term then Masters Project B + C concurrently in the following term. This option is strictly limited only to students who can demonstrate the ability to progress. Further details are provided in the ASSESSMENTS section below.

Students may enrol in up to and including 20 UoC while undertaking Masters Project without being considered as overloading. Students who enrol in 22 UoC or more while undertaking Project are considered to be overloading and will require permission to do so.

### **Where can I find more information?**

Find more information about the structure of the Masters Project on the School website here: <http://intranet.civeng.unsw.edu.au/info-about/student-intranet/honours>

## **PROCEDURE FOR SELECTION OF A RESEARCH TOPIC**

Your priority is to find a Supervisor and agree on a topic BEFORE ENROLLING in Masters Project A.

- Browse online ('search projects') the selection of available topics and identify potential supervisors

<http://intranet.civeng.unsw.edu.au/info-about/student-intranet/honours>

**Note:** It is unlikely that this list is fully up-to-date and comprehensive. It is essential that during the Term prior to enrolment in Masters Project A that individual students approach School teaching staff in area(s) of potential interest, to explore the range of possible thesis topics that may be available.

- Discuss your selection with potential topic supervisors.
- Once you have a Supervisor and topic, you will need to download, complete and sign (both you and your Supervisor) a Masters Project Form, enrol yourself on myUNSW then upload the signed form to the Student Intranet here: <http://intranet.civeng.unsw.edu.au/info-about/studentintranet/submit-thesis-application-form>
- Please note that you will only be able to complete course enrollment for CVEN9451. The School will complete your class registration once you've submitted your topic nomination form to the Student Intranet

**Please note that if you cannot find a Masters Project Supervisor by the start of Term A, then you will not be allowed to enrol/continue in the course and it will be automatically dropped from your enrolments. If you are enrolled in program 8621, you may select CVEN9050 Masters Practice Project A for which an individual supervisor is not required. If you are enrolled in program 8338 and have completed a thesis in your Undergraduate degree, you may be eligible for thesis exemption. Please contact Student Services at the Nucleus for more information.**

WHY WRITE A Masters Project?

### **Satisfy your intellectual curiosity**

This is the most compelling reason to write a Masters Project. You have studied courses during your degree that perhaps really piqued your interest. Now's your chance to follow your passions, explore further, and contribute some original ideas and research in your field.

### **Develop transferable research skills**

Whether you choose to pursue further research (e.g. complete a Ph.D.) or not, the process of developing and crafting a feasible research project will polish skills that will serve you well in almost any future job. After all, most jobs require some form of problem-solving and oral and written communication. Writing a Masters thesis requires that you:

- ask smart questions
- acquire the investigative instincts needed to find answers
- navigate libraries, laboratories, archives, databases, and other research venues
- develop the flexibility to redirect your research if your initial plan flops
- master the art of time management
- sharpen your argumentation skills
- organize a lengthy piece of writing
- polish your oral communication skills by presenting and defending your research to academic staff and students

### **Work closely with academic staff**

At large research universities like UNSW, you have likely taken classes where you barely got to know your lecturer. Writing a thesis offers the opportunity to work one-on-one with an academic supervisor.

Such relationships can enrich your intellectual development and later serve as invaluable references for postgraduate degrees and employment.

### **Open windows into future professions**

A Masters Project will give you a taste of what it's like to do research in your field. It also might help you decide whether to pursue that field in your future career.

## Assessment

Assessment 1 consists of two parts: Component A1 and Component A2:

- Component A1 submission should include: Statement of the Problem and draft Literature Review.
- Component A2 submission should include: More detailed, revised and improved Introduction (Statement of the problem), Literature Review.

1. Component A1 is due: WEEK 7 (**mark: satisfactory/unsatisfactory**)
2. Component A2 is due: WEEK 10 Submissions A1 & A2 must be provided to the supervisor by 4.00pm Friday of the submission week. (**mark: 10% of final mark**)

NOTE: If students are seeking to apply for permission to enroll concurrently in Masters Project B + C in the following Term, then the additional requirement is that the A2 submission must also include a Thesis Outline (Chapters and indicative sub-headings) plus a description of Research Methodology.

In the event of an unsatisfactory assessment in Masters Project A, a student must submit a show cause. A plan of future action to improve student performance must be prepared and agreed upon by both the supervisor and course coordinator before progress to Masters Project B is allowed. Failure to receive the progress assessment by the due date will result in the student results being withheld and/or failure.

### **PROCEDURE FOR SEEKING APPROVAL TO ENROL IN Masters Project B + C CONCURRENTLY**

With Supervisor and School approval, students who demonstrate accelerated progress during Masters Project A may be permitted to enrol in a 4+8 UoC structure, where Masters Project B and C are both taken in the same term after Masters Project A. Students should submit their request to undertake Masters Project B+C (concurrent) at the same time that they submit their extended Component A2 submission (see the ASSESSMENTS section above for the additional content to be included). The Course Coordinator will email all students closer to this date with detailed instructions on how to do this.

It is strongly recommended that you discuss with your supervisor, prior to submitting your formal request for approval. Once your application for concurrent B+C is received, your supervisor will be asked to approve or decline this request (again, you will receive an email outlining how to do so closer to the date).

Students who do not demonstrate sufficient progress during Masters Project A may be instructed to change enrolment and complete Masters Project C in a third term after Masters Project B.

### **FAIL/LATE PENALTIES AND PROCEDURES**

Fail in Masters Project A – must re-enrol in Masters Project A again

**Late Procedure** –Applications for late submission can be applied for BEFORE the due date. This is at the discretion of the Thesis Coordinator, but should only be granted in exceptional circumstances. As per normal, students can also apply through myUNSW for special consideration.

For components A1 and A2 – zero (0) mark is awarded

## Assessment Tasks

Assessment task	Weight	Due Date	Student Learning Outcomes Assessed
Master project and report	100%	23/04/2021 04:00 PM	1, 4, 5

## Assessment Details

### Assessment 1: Master project and report

**Details:** Assessment 1 consists of two parts: Component A1 and Component A2:

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- Component A2 submission should include: More detailed, revised and improved Introduction (Statement of the problem), Literature Review.

1. Component A1 is due: WEEK 7 (**mark: satisfactory/unsatisfactory**)
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## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## Course Schedule

[View class timetable](#)

### Timetable

Date	Type	Content
Week 1: 15 February - 19 February	Workshop	Orientation Session Date/time: Wednesday 17th February 12 - 12:30 pm Venue:  LIVE STREAM (see Moodle for details)
	Project	Confirm Thesis Topic and Enrolment
Week 2: 22 February - 26 February	Workshop	Literature Review & Problem Statement Workshop  Date and time: Wed 24/02/2021 at 12 – 1 pm  Venue: LIVE STREAM (see Moodle for details)
Week 3: 1 March - 5 March	Project	Work on statement of the problem and literature review with supervisor
Week 4: 8 March - 12 March	Project	Work on statement of the problem and literature review with supervisor
Week 5: 15 March - 19 March	Project	Prepare draft for Component A1
	Project	Work on Statement of the Problem and Literature Review with supervisor
Week 6: 22 March - 26 March	Project	Work on Statement of the Problem and Literature Review with supervisor
Week 7: 29 March - 2 April	Project	Finalise and submit Statement of the Problem and Literature Review to supervisor(s)
	Assessment	Component A1 Due – submit to your supervisor by 4.00 pm on Friday
Week 8: 5 April - 9 April	Project	Receive review of Component A1 from supervisor(s)  Revise Statement of the Problem and Literature Review. Consult on your proposed Research Methodology with supervisor.
Week 9: 12 April - 16 April	Project	Complete additional student health and safety training  Revise Statement of the Problem and Literature Review and prepare draft project skeleton. Consult on your proposed Research Methodology

		with supervisor.
Week 10: 19 April - 23 April	Project	Finalise Research Plan and Methodology for Thesis B with supervisor
	Assessment	<p>Component A2 Due – submit to your supervisor by 4.00 pm on Friday.</p> <p>NOTE: If students are seeking to apply for permission to enrol concurrently in Research Thesis B + C in the following Term, then the additional requirements are that the A2 submission must also include a Thesis Outline (Chapters and indicative sub-headings) plus a 1 – 2 page description of Research Methodology, sufficient to indicate clear understanding of the nature and extent of the work required.</p>

## Resources

### Prescribed Resources

The online reference provided below is directed at final year Honours undergraduate students. However, for all practical purposes, there are many similarities in the academic expectations of Honours and Masters by Coursework theses. Furthermore, students are encouraged to utilise the excellent resources at the UNSW Learning Centre during their thesis research.

- Honours Thesis Writing for Engineering and Science Students: <https://student.unsw.edu.au/honours-thesis-writing-engineering-and-science-students>
- UNSW Learning Centre: <https://student.unsw.edu.au/individual-consultations-academic-support>
- Online iWrite thesis writing tutorial: <http://iwrite.sydney.edu.au/tutorials/start/starthere.htm>

### Recommended Resources

Additional material to use:

- Topic material as directed by your supervisor.
- Materials provided by course coordinator.

### Course Evaluation and Development

Feedback from students is welcomed, and is used to continuously improve the course outcomes and experiences for students.

### Laboratory Workshop Information

To be discussed with supervisor(s).

## **Submission of Assessment Tasks**

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

## 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

[Key UNSW Dates](#) - eg. Census Date, exam dates, last day to drop a course without academic/financial liability etc.

### Final Examinations:

Final exams in Term 1 will be held online between 30th April - 13th May inclusive. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

### Supplementary Examinations:

Supplementary Examinations for Term 1 2021 will be held on 24th - 28th May inclusive should you be required to sit one. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

## ACADEMIC ADVICE

For information about:

- Notes on assessments and plagiarism;
- Special Considerations: [student.unsw.edu.au/special-consideration](https://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 Academic Advice on the School website available at:

<https://www.engineering.unsw.edu.au/civil-engineering/student-resources/policies-procedures-and-forms/academic-advice>

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## CRICOS

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## Acknowledgement of Country

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