



## UNSW Course Outline

# MMAN9453 Masters Project C - 2024

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## General Course Information

**Course Code :** MMAN9453

**Year :** 2024

**Term :** Term 3

**Teaching Period :** T3

**Is a multi-term course? :** No

**Faculty :** Faculty of Engineering

**Academic Unit :** School of Mechanical and Manufacturing Engineering

**Delivery Mode :** Research

**Delivery Format :** Standard

**Delivery Location :** Kensington

**Campus :** Sydney

**Study Level :** Postgraduate

**Units of Credit :** 4

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

The 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 project 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 third course of the 3 course project structure. MMAN4953/9543 is the final 3rd part of individual thesis. All three parts must be completed in 3 consecutive terms in order to pass the course.

## **Course Aims**

The thesis provides an opportunity for the student to bring together engineering principles learned over their 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. Thesis projects must be complex, open-ended problems that allow room for student creativity, and the acquisition, analysis and interpretation of results. There must be multiple possible solutions or conclusions at the outset and sufficient complexity to require a degree of project planning from the student. The thesis requires the student to formulate problems in engineering terms, manage an engineering project and find solutions by applying engineering methods. Students also develop their ability to work in a research and development environment.

## **Relationship to Other Courses**

This is the third course of a 3 course project structure. MMAN4951/9451, MMAN4952/9452, then MMAN4953/9453.

# Course Learning Outcomes

Course Learning Outcomes
CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
CL03 : Apply scientific and engineering methods to solve an engineering problem.
CL04 : Analyse data objectively using quantitative and mathematical methods.
CL05 : Demonstrate oral and written communication in professional and lay domains.

Course Learning Outcomes	Assessment Item
CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.	<ul style="list-style-type: none"> <li>• Participation</li> <li>• Thesis presentation</li> <li>• Thesis B report</li> <li>• Final report</li> <li>• Thesis A report</li> </ul>
CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.	<ul style="list-style-type: none"> <li>• Participation</li> <li>• Thesis presentation</li> <li>• Thesis B report</li> <li>• Final report</li> <li>• Thesis A report</li> </ul>
CL03 : Apply scientific and engineering methods to solve an engineering problem.	<ul style="list-style-type: none"> <li>• Participation</li> <li>• Thesis presentation</li> <li>• Thesis B report</li> <li>• Final report</li> <li>• Thesis A report</li> </ul>
CL04 : Analyse data objectively using quantitative and mathematical methods.	<ul style="list-style-type: none"> <li>• Participation</li> <li>• Thesis presentation</li> <li>• Thesis B report</li> <li>• Final report</li> <li>• Thesis A report</li> </ul>
CL05 : Demonstrate oral and written communication in professional and lay domains.	<ul style="list-style-type: none"> <li>• Participation</li> <li>• Thesis presentation</li> <li>• Thesis B report</li> <li>• Final report</li> <li>• Thesis A report</li> </ul>

## Learning and Teaching Technologies

Microsoft Teams

## Additional Course Information

Prerequisite: Completion of Masters Project B (MMAN9452)

MMAN9451, MMA9452 and MMAN9453 are graded courses. MMAN9451 carries 15% of the total thesis mark, MMAN9452 carries 10% of the total thesis mark and MMAN9453 carries 75% of the total thesis mark (for Honours weighting purposes).

## Assessments

### Assessment Structure

Assessment Item	Weight	Relevant Dates
Participation Assessment Format: Individual	5%	
Thesis presentation Assessment Format: Individual	10%	
Thesis B report Assessment Format: Individual	10%	
Final report Assessment Format: Individual	60%	
Thesis A report Assessment Format: Individual	15%	

## Assessment Details

### Participation

#### Assessment Overview

Supervisor participation mark.

#### Course Learning Outcomes

- CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
- CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
- CL03 : Apply scientific and engineering methods to solve an engineering problem.
- CL04 : Analyse data objectively using quantitative and mathematical methods.
- CL05 : Demonstrate oral and written communication in professional and lay domains.

#### Generative AI Permission Level

**Not Applicable**

Generative AI is not considered to be of assistance to you in completing this assessment. If you do use generative AI in completing this assessment, you should attribute its use.

For more information on Generative AI and permitted use please see [here](#).

## Thesis presentation

### Assessment Overview

Final thesis conference presentation.

### Course Learning Outcomes

- CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
- CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
- CL03 : Apply scientific and engineering methods to solve an engineering problem.
- CL04 : Analyse data objectively using quantitative and mathematical methods.
- CL05 : Demonstrate oral and written communication in professional and lay domains.

### Generative AI Permission Level

**Not Applicable**

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## Thesis B report

### Assessment Overview

Thesis B report.

### Course Learning Outcomes

- CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
- CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
- CL03 : Apply scientific and engineering methods to solve an engineering problem.
- CL04 : Analyse data objectively using quantitative and mathematical methods.
- CL05 : Demonstrate oral and written communication in professional and lay domains.

### Generative AI Permission Level

**Not Applicable**

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For more information on Generative AI and permitted use please see [here](#).

## Final report

### Assessment Overview

Final thesis project report.

### Course Learning Outcomes

- CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
- CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
- CL03 : Apply scientific and engineering methods to solve an engineering problem.
- CL04 : Analyse data objectively using quantitative and mathematical methods.
- CL05 : Demonstrate oral and written communication in professional and lay domains.

### Generative AI Permission Level

**Not Applicable**

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## Thesis A report

### Assessment Overview

Report for Thesis A.

### Course Learning Outcomes

- CL01 : Develop a design or a process or investigate a hypothesis following industry and professional engineering standards.
- CL02 : Critically reflect on a specialist body of knowledge related to their thesis topic.
- CL03 : Apply scientific and engineering methods to solve an engineering problem.
- CL04 : Analyse data objectively using quantitative and mathematical methods.
- CL05 : Demonstrate oral and written communication in professional and lay domains.

### Generative AI Permission Level

**Not Applicable**

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## General Assessment Information

The final grade for Thesis is made up from Thesis A (15%), Thesis B (10%), Thesis C report

(60%), Thesis C presentation (10%) and a participation mark from your supervisor (5%).

If students fail a course in Thesis, they can repeat Thesis A, B, C if the supervisor agrees. Otherwise the student will need to start over from Thesis A.

Grading Basis

Standard

# Course Schedule

## Attendance Requirements

Not Applicable - as no class attendance is required

# Course Resources

## Course Evaluation and Development

Feedback on the course is gathered periodically using various means, including the UNSW myExperience process, informal discussion in the final class for the course, and the School's Student/Staff meetings. Your feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Tracie Barber		J17 401A		Please contact by email or via Teams	Yes	Yes

# Other Useful Information

## Academic Information

### I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are

declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's [Special Consideration page](#).

## II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and policies. In particular, students should be familiar with the following:

- [Attendance](#)
- [UNSW Email Address](#)
- [Special Consideration](#)
- [Exams](#)
- [Approved Calculators](#)
- [Academic Honesty and Plagiarism](#)
- [Equitable Learning Services](#)

## III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

## IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: <https://www.unsw.edu.au/engineering/student-life/student-resources/program-design>.

*Note: This course outline sets out the 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 or your primary learning management system (LMS) 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/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.*



## Academic Honesty and Plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: [student.unsw.edu.au/plagiarism](https://student.unsw.edu.au/plagiarism). The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

[www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf](https://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)

## Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be

awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

## Faculty-specific 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)

## School-specific Information

### Short Extensions

Short extensions are not currently applicable to Mechanical and Manufacturing Engineering Courses.

## **Review of Results**

If you believe that there has been a marking error, you can request a review of results. Review of results cannot be used to get feedback.

If you would like feedback for assessments, you are welcome to contact the course convenor directly.

## **Use of AI**

The use of AI is prohibited unless explicitly permitted by the course convenor. Please respect this and be aware that penalties will apply when unauthorised use is detected, such as through Turnitin. If the use of generative AI, such as ChatGPT, is allowed in a specific assessment, they must be properly credited, and your submissions must be substantially your own work.

## **Final Exam in Exam Period**

For courses with a centrally timetabled final exam, students must be available for the entire exam period from Mon-Sat until your exact exam date is confirmed.

## **School Contact Information**

### **Location**

UNSW Mechanical and Manufacturing Engineering

Ainsworth building J17, Level 1

Above Coffee on Campus

### **Hours**

9:00–5:00pm, Monday–Friday\*

\*Closed on public holidays, School scheduled events and University Shutdown

### **Web**

[School of Mechanical and Manufacturing Engineering](#)

## [Engineering Student Support Services](#)

### [Engineering Industrial Training](#)

### [UNSW Study Abroad and Exchange](#) (for inbound students)

### [UNSW Future Students](#)

#### **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)

(+61 2) 9385 4097 – School Office\*\*

\*\*Please note that the School Office will not know when/if your course convenor is on campus or available

#### **Email**

[Engineering Student Support Services](#) – current student enquiries

- e.g. enrolment, progression, 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

[School Office](#) – School general office administration enquiries

- NB: the relevant teams listed above must be contacted for all student enquiries. The School will only be able to refer students on to the relevant team if contacted

#### **Important Links**

- [Student Wellbeing](#)
- [Urgent Mental Health & Support](#)
- [Equitable Learning Services](#)
- [Faculty Transitional Arrangements for COVID-19](#)
- [Moodle](#)
- [Lab Access](#)
- [Computing Facilities](#)
- [Student Resources](#)
- [Course Outlines](#)
- [Makerspace](#)
- [UNSW Timetable](#)
- [UNSW Handbook](#)