MMAN4020

Thesis B

Term One // 2021

Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
Ang Liu	ang.liu@unsw.edu.au	Teams or Outlook Calendar meeting invitation	Online via email or course's Teams page	(2)93854080

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

Course Details

Credit Points 6

Summary of the Course

Thesis (Practice) allows each student to work under the guidance of the course convenor and Mentors. The nominated Project involves research-based investigations, industrial problem-solving and engineering design, with virtual simulation/prototyping/proof-of-concept (as applicable).

This course is the second of two parts and is undertaken after MMAN4010 Thesis A (Practice). They are two parts of a whole. The project involves formulating the design for, and a viable solution to, the Project Brief provided. The problem is multi-disciplinary, involving the application of material learnt throughout your undergraduate program and will require a lot of creative thought. The group project is to be completed in two consecutive trimesters during the last academic year before graduation.

It is not the responsibility of the course coordinator or Mentors to instruct the student what to do in this thesis Course, nor should it be assumed that your Mentor is an expert in all areas of engineering. Your Mentor is there to offer guidance and advice, as may other staff in the School if agreeable and available (you should always seek an appointment by prior arrangement), who may have expertise in the area of your project. The successful execution of the project is solely the responsibility of the student.

Course Aims

This course enhances the student's skills for undertaking scholarly and professional enquiry by attempting to achieve a specific project 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 report is expected to reinforce the student's ability and confidence in the written communication of technical information. Verbal presentation skills are tested during the video Presentation and during group/Mentor Teams online meetings.

Course Learning Outcomes

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

Learning Outcome	EA Stage 1 Competencies
1. You will be able to plan a major engineering project and see it to completion.	PE2.1, PE2.3, PE2.4, PE3.3
2. You will learn how to collect and synthesise relevant information for the project.	PE2.1, PE2.3, PE2.4
3. You will learn to communicate professionally with others involved in the project, such as your supervisors and mentors.	PE2.4, PE3.2, PE3.4
4. You'll be able to produce a detailed, professional-standard technical document describing your work and outcomes and the "why" as much as the "what".	PE3.4, PE3.5, PE3.6

Teaching Strategies

The Thesis is where each student works under the guidance of academic staff with input from technical (industry/research/practitioner) specialists. Topics are related to projects selected from contemporary practice. The work involves research-based investigations, industrial problems and design applications

Assessment

Assessment Tasks

Assessment task	Weight	Due Date	Student Learning Outcomes Assessed
Final Thesis Report	80%	28/04/2021 09:00 PM	1, 2, 3, 4
Presentation at Thesis Conference	20%	22/04/2021 11:00 AM	1, 2, 3, 4

Assessment Details

Assessment 1: Final Thesis Report

Start date: 26/04/2021 09:00 AM

Length: 15-20 pages per portfolio

Details:

Each project group should submit a group report that is divided into multiple portfolios. Each student is independently responsible for the content of one particular portfolio (15-20 pages per portfolio). The individual portfolio determines 85% of a student's grade for this assessment, whereas the other 15% is determined by group efforts for common report sections such as abstract, introduction, and conclusion. A detailed marking rubrics will be provided. The deadline for absolute fail is three days after the announced deadline.

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

Assessment 2: Presentation at Thesis Conference

Start date: Not Applicable

Details: The group should make a project presentation (up to 20 minutes) during the thesis conference. All group members will receive the same presentation grade. The presentation will undergo peer evaluation by other groups as well as expert review by the mentors and course conveners. The deadline for absolute fail is one day after the announced deadline.

Turnitin setting: This is not a Turnitin assignment

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	Online Activity	Week 1 - we will schedule kick-off Teams video meetings for all Groups with the convenor. The format will be a personal review and feedback "live" of your MMAN4010 reports and presentations, and help in laying out your Groups' roadmaps for MMAn4020. The timing of these Teams chats will be by Calendar invite in the usual way - your Group gets organised and then sends the convenor a time/date suggestion for acceptance/alteration. [Note - as much as possible, students should try to enroll in the same tutorial as their group members from MMAN4010] Re-establish contact with your group and Course Convenor on Teams • Reconvene with your course convenor and Mentor on Teams • Deliverable: Minutes posted to Teams Group Channel
Week 2: 22 February - 26 February	Group Work	Deliverable: Revisit your Portfolios in response to the Project Brief. Preapprove or modify. • Have one group meeting with your Mentor on Teams. • Deliverable: Produce group meeting minutes and post to your Teams Group Channel
Week 3: 1 March - 5 March	Group Work	Had at least one group meeting on Teams to work on: • Deliverable: Draft an updated Practice Thesis B project task timeline (Gantt) and post to Teams. • Deliverable: Produce minutes (can contain all Week 3 deliverables) and post to Teams • Have one group meeting with your Mentor on Teams.

Week 4: 8 March - 12 March	Group Work	Each group member to provide a brief verbal report on Teams on their area of Portfolio responsibility. Areas to be covered must include: • Time management – individual portfolio Gantt would be advisable. • Resources required to complete the project, if applicable. • Any issue with group members' performance: attendance, communication, effort, etc. • Have one group meeting with your Mentor on Teams.
Week 5: 15 March - 19 March	Group Work	Regular weekly group meeting: your group to determine the agenda, demonstrating your initiative and management skills. • Deliverable: Minutes posted to Teams • Have one group meeting with your Mentor on Teams.
Week 6: 22 March - 26 March	Group Work	Regular weekly group meeting: your group to determine the agenda, demonstrating your initiative and management skills. • Deliverable: Minutes posted to Teams • Have one group meeting with your Mentor on Teams.
Week 7: 29 March - 2 April	Group Work	Regular weekly group meeting: your group to determine the agenda, demonstrating your initiative and management skills. • Deliverable: Minutes posted to Teams • Have one group meeting with your Mentor on Teams.
Week 8: 5 April - 9 April	Group Work	Finalize the drafting of your settled Report. • Deliverable: Draft Report to Teams. Each group member responsible for a chapter, identified with author's name. Further details: refer to Moodle and/or Teams • Have one group meeting with your Mentor on Teams
Week 9: 12 April - 16 April	Group Work	Regular weekly group meeting: your group to determine the agenda, demonstrating your initiative and management skills. • Deliverable: Minutes posted to Teams • Have one group meeting with your Mentor on Teams.
Week 10: 19 April - 23	Presentation	The group makes a presentation at the thesis

April		conference. The presentations will be peer assessed as well as reviewed by the mentors and course convenor.
	Assessment	Final thesis report is due in Week 11

Resources

Prescribed Resources

Content on the course Teams is continually updated with tips, discussions and resources, so you are strongly advised to make sure you check for all updates.

In addition:

UNSW Library website: https://www.library.unsw.edu.au/

Recommended Resources

Course Evaluation and Development

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

Migration to an online Teams environment was instigated for T2-2020 and will be universal for T3-2020.

Submission of Assessment Tasks

Assessment submission and marking criteria

Should the course have any non-electronic assessment submission, these should have a standard School cover sheet.

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect.

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

Late policy

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 percent (20%) 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.

Work submitted after the 'deadline for absolute fail' is not 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 are clearly indicated in the course outline, and such assessments receive a mark of zero if not completed by the specified date. Examples include:

1. Weekly online tests or laboratory work worth a small proportion of the subject mark, or
2. Online quizzes where answers are released to students on completion, or
3. Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or
4. Pass/Fail assessment tasks.

Examinations

You must be available for all quizzes, tests and examinations. For courses that have final examinations, these are held during the University examination periods: February for Summer Term, May for T1, August for T2, and November/December for T3.

Please visit myUNSW for Provisional Examination timetable publish dates. For further information on exams, please see the Exams webpage.

Special Consideration

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 submitting an assessment or sitting an exam.

UNSW now has a [Fit to Sit / Submit rule](), which means that if you attempt an exam or submit a piece of assessment, 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]().

Please note that students will **not** be required to provide **any** documentary evidence to support absences from any classes missed **because of COVID-19 public health measures such as isolation**. UNSW will **not** be insisting on medical certificates from anyone deemed to be a positive case, or when they have recovered. Such certificates are difficult to obtain and put an unnecessary strain on students and medical staff.

Applications for special consideration **will** be required for assessment and participation absences – but no documentary evidence **for COVID 19 illness or isolation** will be required.

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. 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.

If plagiarism is found in your work when you are in first year, your lecturer will offer you assistance to improve your academic skills. They may ask you to look at some online resources, attend the Learning Centre, or sometimes resubmit your work with the problem fixed. However more serious instances in first year, such as stealing another student's work or paying someone to do your work, may be investigated under the Student Misconduct Procedures.

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) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Academic Information

Credit points

Course credit is calculated in Units-Of-Credit (UOC). The normal workload expectation for one UOC is approximately 25 hours per term. This includes class contact hours, private study, other learning activities, preparation and time spent on all assessable work.

Most coursework courses at UNSW are 6 UOC and involve an estimated 150 hours to complete, for both regular and intensive terms. Each course includes a prescribed number of hours per week (h/w) of scheduled face-to-face and/or online contact. Any additional time beyond the prescribed contact hours should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

On-campus class attendance

Public distancing conditions must be followed for all face-to-face classes. To ensure this, only students enrolled in those classes will be allowed in the room. Class rosters will be attached to corresponding rooms and circulated among lab demonstrators. No over-enrolment is allowed in face-to-face class. Students enrolled in online classes can swap their enrolment from online to a **limited** number of on-campus classes by Sunday, Week 1. Please refer to your course's Microsoft Teams and Moodle sites for more information about class attendance for in-person and online class sections/activities.

Your health and the health of those in your class is critically important. You must stay at home if you are sick or have been advised to self-isolate by [NSW health](#) or government authorities. Current alerts and a list of hotspots can be found [here](#). **You will not be penalised for missing a face-to-face activity due to illness or a requirement to self-isolate.** We will work with you to ensure continuity of learning during your isolation and have plans in place for you to catch up on any content or learning activities you may miss. Where this might not be possible, an application for fee remission may be discussed. Further information is available on any course Moodle or Teams site.

In certain classroom and laboratory situations where physical distancing cannot be maintained or there is a high risk that it cannot be maintained, face masks will be considered **mandatory PPE** for students and staff.

For more information, please refer to the FAQs: https://www.covid-19.unsw.edu.au/safe-return-campus-faqs

Guidelines

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

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

Important Links

- [Moodle](#)
- [Lab Access](#)
- [Health and Safety](#)
- [Computing Facilities](#)
- [Student Resources](#)
- [Course Outlines](#)
- [Engineering Student Support Services Centre](#)
- [Makerspace](#)
- [UNSW Timetable](#)
- [UNSW Handbook](#)
- [UNSW Mechanical and Manufacturing Engineering](#)
- [Equitable Learning Services](#)

Image Credit

Synergies in Sound 2016

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	✓