



Mechanical and Manufacturing Engineering

Course Outline

Semester 2 2017

MMAN4010

THESIS A

1. Staff contact details

All academic staff, together with some senior engineers from industry, act as supervisors to students undertaking BE thesis work. Support is also provided by the workshop and laboratory staff.

Contact details of the Course Coordinator

Name: A/Prof Tracie Barber

Office location: Ains5(f)-6.6(f)-6.6(at)-Ai J-6.617]TJ [()-5.9(he 9.826 -1.337 (401()Tj 0 Td ()T51 18 /P <</M

It is essential that you consult the Moodle site for the most up-to-date and detailed information relating to the thesis. All announcements regarding the course will be made through Moodle.

The UNSW website states “The normal workload expectations of a student are approximately 25 hours per semester for each UoC, including class contact hours, other learning activities, preparation and time spent on all assessable work. Thus, for a full-time enrolled student, the normal workload, averaged across the 16 weeks of teaching, study and examination periods, is about 37.5 hours per week.”

This means that you should aim to spend not less than about 10 h/w on this course, including consultation with supervisor and workshop/laboratory staff and library/internet search. However, most students spend more time on their thesis work.

Contact hours

There are no set contact hours for this course, however optional lectures are run during the semester and will be advertised on Moodle.

Summary and Aims of the course

BE Thesis is usually completed in two consecutive semesters during the last academic year. This is the only course where the students have complete freedom to work on his/her chosen thesis projects from the initiation to the end – the project contains a large amount of original research and/or novel design work or analysis. It is not the responsibility of the supervisor to tell the student what to do, nor should it be assumed that the supervisor is an expert in all areas of engineering. They are there to offer guidance and advice, as are laboratory staff, workshop staff, and others in the school that may have expertise in the area of your project. The successful execution of the project is solely the responsibility of the student.

Thesis A is to be taken in the second to last semester required for the completion of all requirements for the award of the degree. This course—together with MMAN4020 Thesis B, which is to be taken in the following semester—requires each student to demonstrate managerial, technical and professional skills in planning and executing an approved engineering project within a stipulated time limit. Each student is guided by a supervisor, but successfully planning, executing and reporting on the project are the sole responsibility of each student.

Laboratory staff

The laboratories are the responsibility of the staff-in-charge and you must operate within the accepted practices of the laboratory concerned. You should not expect laboratory staff to take responsibility for your thesis or carry out work for you. The laboratory staff are highly skilled and helpful; take full advantage of their experience.

If your project involves laboratory work, contact the officer-in-charge (OIC) of the laboratory in which you will be working as soon as possible to discuss your requirements. They will

4. Teaching strategies

There is no formal teaching, but students learn from both internal and external sources. The supervisor, other academics and laboratory/workshop staff are the internal sources, whereas the Library, internet and industry mentors are the external sources.

5. Course schedule

There are no set lectures for this course, but a number of optional lectures will be provided to assist students to complete their thesis to a high standard. The date and time of the workshops will be announced on Moodle. All workshops will be recorded and made available to students on Moodle.

6. Assessment

The final grade for Thesis A will be made from:

Thesis A Progress Report	80%
Thesis A Presentation	20%

For calculation of Honours, Thesis A is worth 25% and Thesis B is worth 75% of the total 12 unit course credit.

It is your responsibility to keep your project details (supervision, title, working abstract) up to date in the “your project details” section of Moodle. If you do not have information in there or the supervisor name is incorrect, your progress report will o12.9(ewu do no)1.1(r)-6(t)4.3(waw)1>pr23.9(t)-6

Thesis A progress (interim) report marking rubrics:

Criteria 1: Reviewing the work of others (30%)

Grade	Mark	Brief description	Explanation/Examples
Fail	0 – 14	Deficient	Deficient work may be characterised by a number of features, including inappropriate reliance on sources not peer reviewed (such as the internet), not reviewing what should be the core of the literature in a particular area, or not reviewing any recent work (within, for example, the last 5 years although this will depend somewhat on the field).
Pass	15 – 18	Adequate	The literature reviewed is sufficient to inform the proposed research, although it is likely that further review will be required as the work progresses. What distinguishes work at this level from work at the next level up is quantity: an adequate review of the literature sketches enough that the reader can see what the picture is about, but neglects significant aspects. i.e., are there significant holes in this review?
Credit	19 – 22	Solid	The most significant areas of literature relevant to the proposed work have been reviewed. There are no major "holes". What is generally missing in this band, but present in higher quality work, is the student showing that they understand the conceptual relationships between the different reviewed works.
Distinction	23 – 26	Solid and linked	The most significant areas of literature relevant to the proposed work have been reviewed and the student has clearly identified one or more knowledge gaps. The student will have shown that they understand the conceptual relationships between reviewed works and between reviewed works and the student's research project. i.e., the student makes intellectual connections between the different parts of the review and puts their work in context.

Criteria 2: Articulating a research question, plan and thesis outline (20%)

Grade	Mark	Brief description	Explanation/Examples
Fail	0 – 9	Broad context missing.	The research question is not explained, and there is no clear demonstration of student understanding. Research plan is not present, or does not have sufficient detail to demonstrate they can successfully complete a thesis project. No thesis outline is presented (i.e., thesis chapter headings).
Pass	10 – 12	Broad context present. No specific plan.	

Criteria 3: Document presentation (10%)

Grade	Mark	Brief description	Explanation/Examples
Fail	0 – 4	Impedes document reading	Presentation is poor to the extent that it impedes reading of the document. Examples include multiple inconsistent citation styles or incomplete citations, unintelligible grammar, figures or tables not labelled or badly inconsistent document formatting.
Pass	5	Poor formatting / document structure	Document is not at a professional level. Although figures and diagrams are labelled and references in text match reference list (and vice versa), formatting is unclear and inconsistent to the extent that the reader can lose track of the context when reading.
Credit	6 – 7	Poor judgement with respect to layout, possible padding	Appropriate use of section and sub-section heading structures. Figures and diagrams are labelled, formatting is consistent, references in text match reference list (and vice versa), pictures are clear and attributed, sections clearly labelled. There may be superfluous material present, such as unnecessary, repetitive or unusually large figures, unnecessarily lengthy text, unusually wide margins, unnecessary appendices, etc.
Distinction	8 – 9	Professional, may have issues with data presentation	Everything from above, plus a logical flow of sections, and appropriate judgement in the placement data, tables or figures in the body of the work or the appendices. Figures and diagrams are correctly and clearly labelled, text spacing aids readability, consistent formatting, references in text match reference list (and vice versa), pictures are clear and attributed, sections clearly labelled. Some of the graphical presentation of data is inappropriate - poor choice of axes, overcrowding, poor use of chart space etc.
High Distinction	10	Professional, concise and readable	Everything from above, plus text is clear and concise. Graphical presentation of data is appropriate, clear and economical.

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THESIS A PRESENTATION

Between Monday Week 12 to Friday Week 13 , the student must present their thesis progress to their supervisor. You will need to book a time with your supervisor and complete a 10 minute presentation face-to-face.

Thesis A presentation marking rubrics:

Aspect 1: Presentation skills (25%)

Criteria	Grade
Did the presenter speak with clarity (volume, speed, enunciation)?	/5
Did the presenter speak in an engaging way (tone, passion)?	/5
Did the presenter engage the audience (eye contact, body language)?	/5

Consequences if you fail in Thesis A and B

If you Fail in Thesis A, you must re-enrol in Thesis A again in a future semester.

If you Fail in Thesis B, you have two options:

- x re-enrol for Thesis A & B again with a new project and supervisor
- x re-enrol for Thesis B again with the same project (needs consent of an appropriate supervisor & student)

Late Procedure

In all cases, 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.

- x For all other components beside thesis progress report and thesis final report – zero (0) mark is awarded
- x For thesis progress report and thesis final report – 5 marks off for every day late. Penalty applies until the marks for the course decrease to 50, and further lateness does not result in failure of the course, but might be a failure of the report (weekends count as days).
- x Any report not turned in within 6 weeks after the deadline will be finalised at zero (0) marks.

Special consideration and supplementary assessment

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

7. Attendance

It is your responsibility to make contact with your supervisor, and to attend regular meetings.

8. Expected resources for students

There is no prescribed textbook for this course.

Content on the Moodle page will be updated often with tips, discussions and resources, so you are strongly advised to make sure you are able to receive updates.

Students may find other resources on their particular project at the UNSW library:

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

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