



Course Outline

Semester 1 2018

MECH9011

ME PROJECT A

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3. Course details

Credit Points

This is a 6 unit-of-credit (UoC) course, and involves an unprescribed number of contact hours per week (h/w) with your supervisor. This varies on a case-by-case basis, as agreed with your supervisor.

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.”

Thesis differs. Various factors, such as your own ability, your target grade, etc., will influence the time needed in your case.

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 thesis.

Summary and Aims of the course

ME Projects A and B lead to completion of a thesis report and are 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 project 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.

This course—together with MECH9012 Project B, which is to be taken in the following semester—requires each student to demonstrate manageri-GBthet

Progress Report: due Monday Week 13, 5pm

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.	Research question and plan are presented, but lack detail and a logical plan of investigation. There is enough of a plan to believe that the research project is feasible. Generic chapter headings may show no particular relevance to the research.
Credit	13 – 15	Broad context present. Specific logical plan.	Research question and plan are presented, and include some detail. There is enough of a plan to believe that the research project is feasible, and that student understands the resources and time required. The plan does not appear to be informed by the literature review – it sits largely separately to the literature review, it is not part of the narrative developed in the review. Thesis outline reflects the research plan, but lacks enough detail.
Distinction	16 – 18	Broad context present. Specific logical plan. Plan fits the review narrative.	The plan fits within the narrative set out by the literature review – the student makes clear why the plan is developed this way in the narrow context of the reviewed literature. The research plan demonstrates a logical and feasible course of action. Realistic milestones have been set. Thesis outline that demonstrates a logical vision for the thesis.
High Distinction	19 – 20	Broad context present. Specific and robust logical plan. Plan fits the review narrative.	The plan is robust and has provision for project variations and contingencies. The plan fits within the narrative set out by the literature review – the student makes clear why the plan is developed this way in the context of the reviewed literature. Thesis outline includes sub-sections, logical flow with a clear connection to the project plan and literature review.

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.

Grade	Mark	Brief description	Explanation/Examples
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.

Criteria 4: Thesis progress (40%)

Grade	Mark	Brief description	Explanation/Examples
Fail	0 – 19	Minimum progress	Very little actual work has been completed, perhaps laboratory inductions or some introductory demonstrations only.
Pass	20 – 24	Minor work completed	Some work complete on research project, but does not look like one session worth of work. Some simple preliminary work conducted.
Credit	25 – 29	Start on project	Preliminary work completed and project looks at a stage where it can be completed in time. Initial work has been completed to allow the significant work to take place in Thesis B.
Distinction	30 – 34	Good work conducted, real progress made	Real progress made with some results already being found. Preliminary work all completed and well into the research component of the project.
High Distinction	35 – 40	Excellent progress	Good sets of results being found, and clearly on track for completion of significant work during Thesis B.

Project A presentation

Between **Monday Week 12 (21 May) to Friday Week 13 (1 June)**, 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. Alternatively, by prior agreement with your supervisor, your Project A presentation may take the form of a to-camera video, uploaded to YouTube (with appropriate privacy settings). Please discuss with your supervisor.

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
Did the presenter deliver in a relaxed, confident manner?	/5
Did the speaker make good use of well-designed visual aids?	/5

Aspect 2: Knowledge base (25%)

Criteria

Grade

website with a wealth of resources to support students to understand and avoid plagiarism:
student.unsw.edu.au/plagiarism

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
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
PE2: Engineering Application Ability	PE2.1 Application of established engineering methods to complex 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
PE3: Professional and Personal Attributes	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (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