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MECH9011

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

Contact details and consultation times for course convenor

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3. Unit

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.”

ME Project 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 project work.

Contact hours

There are no set contact hours for project.

Summary and Aims of the course

ME Project is usually completed in two consecutive semesters during the last academic year. This is the only course where the student has complete freedom to work on his/her chosen 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.

Project A is to be taken in the second last semester required for the completion of all requirements for the award of the degree. This course—together with MECH9012 Project 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 their 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 project 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 issue you with a Laboratory Access Approval (LAA) form which you must complete and return to the OIC.

Before you start work in a laboratory or undertake any activity which might be considered hazardous in any way, you must read and understand the practices and procedures described in the OHS section of the School's intranet:

<https://eng-intranet.unsw.edu.au/mech-engineering/whs/SitePages/Home.aspx>

Workshop

All student activities requiring manufacture in the Mechanical and Manufacturing Engineering (MME) workshop should be discussed with the workshop personnel at the inception of the work. The workshop personnel must have the opportunity to advise and influence the design to help minimise assembly, manufacture or functional problems.

The workshop is usually in very high demand. If you require the workshop to manufacture equipment essential to your project, then make sure that you discuss your requirements as early as possible with the Workshop/Laboratory Manager. You should provide engineering drawings which are first approved by the laboratory officer-in-charge. You should make every effort to minimise the Workshop load by modifying existing equipment rather than building from new, and by keeping your designs simple.

Safety Training

A full list of safety training requirements for BE Project students is available on the School's intranet. Safety in any project is paramount and it is mandatory to complete risk paperwork for all activities. Always discuss with your supervisor what your plans are and what risk assessments will be required.

Student learning outcomes

This course is designed to address the below learning outcomes and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The

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

Learning Outcome		EA Stage 1 Competencies
1.	Develop a design or a process or investigate a hypoproject following industry and professional engineering standards.	PE2.1, PE2.2, PE2.3, PE2.4
2.	Critically reflect on a specialist body of knowledge related to their project topic.	PE1.3
3.	Apply scientific and engineering methods to solve an engineering problem.	PE2.1
4.	Analyse data objectively using quantitative and mathematical methods.	PE1.2, PE2.1, P2.2

You are required to provide the final details (title, supervisor, abstract) of your project on Moodle before **Friday 5pm, Week 12**. Failure to do so will incur late penalties, as your report will not be allocated for marking.

Progress Report: due Monday Week 13, 5pm

Please submit your Progress Report electronically, directly through the portal which will be made available on Project A Moodle.

The supervisor will assess the report and grade the work; in order to progress to M

Criteria 2: Articulating a research question, plan and project 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 project project. No project outline is presented (i.e., project 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. Project 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. Project outline that demonstrates a logical vision for the project.

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: Project



Late Procedure

In all cases, applications for late submission must be applied for through myUNSW for Special Consideration in advance of the due date. This is at the discretion of the project coordinator but will only be granted in exceptional circumstances.

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 per cent (20%) of the maximum mark possible for that assessment item, per calendar day.

- x Any project not turned in within 6 weeks after the initial deadline (exclusive of any extension granted) will be finalised at zero (0) marks.

The late penalty is applied per calendar day (including weekends and public holidays) that

- x [Exams](#)
- x [Approved Calculators](#)
- x [Academic Honesty and Plagiarism](#)
- x [Student Equity and Disabilities Unit](#)
- x [Health and Safety](#)
- x [Student Support Services](#)

Academic Program (A) t

Stage 1 Competencies for Professional Engineers

PE1: Knowledge and Skill Base	Program Intended Learning Outcomes
	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals <2T 0 scn /TT0 1 Tfa8Ces