



**UNSW**  
AUSTRALIA

# Course outline

Semester 2 2016

Never Stand Still

Engineering

Mechanical and Manufacturing Engineering

## **MMAN4020**

## **THESIS B**

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# 1. Staff contact details

## Contact details and consultation times for course convenor

Name: Dr Ron Chan  
Office location: Ainsworth (J17) 507  
Tel: (02) 9385 1535  
Email: [r.chan@unsw.edu.au](mailto:r.chan@unsw.edu.au)

It is recommended you email to make a specific appointment if you need to discuss any important issues, particularly if you want to discuss extensions, supervisor issues, etc. Always consult the course Moodle first in case your questions have already been answered, or in the event that others may benefit from reading what you are asking and the response.

## Contact details of the Thesis Administrator

Name: Mr Kane Murdoch  
Office location: Ainsworth (J17) Level 1, Student Services Office  
Tel: (02) 9385 4154  
Email: [kane.murdoch@unsw.edu.au](mailto:kane.murdoch@unsw.edu.au)

Contact Kane directly, cc'ing Ron, if you have issues relating to your enrolment, progress, or other administrative queries of a technical nature.

# 2. Course details

## Credit Points

This is a 6 unit-of-credit (UoC) course, and involves Zero hours per week (h/w) of face-to-face contact.

**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 about 9 h/w on this course. The additional time should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any

**There is no parallel teaching for this course.**

### **Contact hours**

There are no set contact hours for this course.

### **Summary of the course**

UG 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.

### **Aims of the course**

Thesis B is to be taken in the last semester required for the completion of all requirements for the award of the degree, i.e. in the semester immediately following that in which MMAN4010 Thesis A is taken. This course, together with MMAN4010 Thesis A, requires each student to demonstrate managerial, technical and professional skills in planning, executing and reporting on an approved engineering project within a stipulated time limit. Each student is also required to report on their project work at a thesis conference. The project, on which each student works, will be a direct continuation of the project on which that student worked in MMAN4010 Thesis A. Each student is guided by a supervisor, but successfully completing the project, Each student is guided by a supervisor, but successfully completing all assessment tasks by the deadline is sole responsibility of the 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 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

## **Workshop**

All student activities requiring manufacture in the 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 high demand. If you require the Workshop to manufacture equipment essential to your thesis, 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**

## 4. Course schedule

There are no set lectures for this course, but a number of workshops 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 and by email. All workshops will be recorded and made available to students on Moodle.

## 5. Assessment

### Assessment overview

Assessment	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Marks returned
Thesis extended abstract / poster (peer-assessment)	10 minutes to assess	5%	1,2 3 and 4	See marking rubrics	Wednesday Week 5 (24/8), 5pm via Moodle	1 week after submission
Thesis Conference	8 minutes	10%	1,2 3 and 4	See marking rubrics	Friday Week 13 (28/10), 5pm	Upon release of the final grade
Thesis Report	100 pages (soft limits)	85%	1,2 3 and 4	See marking rubrics	Monday Week 13 (24/10), 5pm via Moodle	Upon release of the final grade

**For calculation of Honours, Thesis A is worth 25% and Thesis B is worth 75% of the**



## **Thesis Submission**

### **Thesis hard copies and electronic copies due Monday week 13, 5pm.**

The quality of the presented work is very important and great care must be taken with the typing and presentation of graphs and diagrams; drawings should be to standard engineering practice. Drawings submitted to the Workshop must be approved by the officer-in-charge of the relevant laboratory. The English should be clear and grammatically correct with a high standard of spelling and punctuation.

There is no strict minimum length for a thesis, nor is there a maximum length. We impose a 'soft limit' of 100 pages and strongly recommend you aim for this. Appendices must be brief and should contain only material which is indispensable but at the same time cannot be included in the text.

### **Confidential Theses**

If your thesis contains confidential information, in order to restrict it from viewing for two years you must complete a Confidentiality Form, available from the School's BE Thesis Moodle Site, and submit this statement with your thesis. Confidential theses should not be uploaded to the database but should be submitted in all other required formats. Discuss submission with the Thesis coordinator.

### **Production and Submission Specifications**

All BE thesis students are required to submit copies of their thesis in the formats shown below. Students who do not submit as required will be denied graduation until the requirements have been met.

#### **A. Two spiral-bound copies**

This copy will be returned to the author. The spine should be labelled with the author's initials and family name (a label is sufficient). Students may collect a copy from their supervisor after the MMAN4020 Thesis B results have been released. Copies not collected by the end of Week 1 in the following semester may be destroyed.

Your submission on Moodle indicates that the thesis is entirely your own original work, which is a binding statement.

#### **B. One PDF copy through Moodle**

You **MUST** submit a PDF copy through the Thesis B Moodle page. Name this file 'z1234567\_Thesis', with '1234567' being your student ID number.

The submitted file should be less than 20mb – if you feel that your work would benefit from a larger, higher-res version, please submit this directly to your supervisor. The electronic version must have the copyright declaration included in it, as a scanned version of the signed original, though by your submission you will also agree that the work is all your own.



### **C. Data**

Your thesis mark will not be released until you have organised to pass on your thesis data to your supervisor. This can be dropbox, USB stick, hard drive – discuss with your supervisor. However it is now a legal requirement of research conducted at UNSW that the original data be archived, and so you must collate all the work that went into your thesis (drawings, excel files, CAD files, CFD/FEA result files, etc. – everything that went into creating your thesis, but not early work or dead-ends that did not make the cut). Your supervisor will mark this task complete on Moodle.

### **Specifications for Thesis**

Paper must be ISO size A4 (210 x 297mm).

Typing and may be double sided only if the paper is of sufficient quality that the other side is not showing through and interfering with the readability of the text. All text should be size 11 or 12 font Times New Roman or close equivalent serif font, apart from titles and figures.

Margins must be not less than 30 mm at the left and right edge (before binding), 30 mm at the upper edge, and 20 mm at the lower edge.

The thesis must include a title sheet headed:

**UNSW AUSTRALIA**

**SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING**

**(The above are not to be abbreviated. Do not insert the UNSW crest)**

**SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING**



the research work, not coherently linked.

etc. They have interpreted meaning from the results but have overall not succeeded in linking the components of their

#### Criteria 4: 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. The structure of the document is poor or illogical, with little discernible flow.
Credit	6 – 7	Poor judgement with respect to layout, possible padding	Document is not at a professional level. 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. Poor judgement has been exercised in placing data, tables or figures in the body of the work, and/or excessive figures/tables – some of which would have been better placed in an appendix or discarded. An attempt might have been made to "pad" the work or increase the page count using unnecessary, repetitive, or large figures, unnecessarily lengthy text, wide margins, etc. The language is not sophisticated or sufficient for describing the technical aspects clearly and rigorously, and there are disjointed aspects to the structure.
Distinction	8 – 9	Professional, may have issues with data presentation	Document is at a professional level

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%)**

<b>Criteria</b>	<b>Grade</b>
Was proper background information on the topic given?	/5
Was the material selected for presentation appropriate to the topic?	/5

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

## Assignments

### Presentation

All submissions should have a standard School cover sheet which is available from this course's Moodle page.

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

### Submission

Late submissions will be penalised 5 marks per calendar day (including weekends). An extension may only be granted in exceptional circumstances. Where an assessment task is worth less than 20% of the total course mark and you have a compelling reason for being unable to submit your work on time, you must seek approval for an extension from the course convenor before the due date . Special consideration for assessment tasks of 20% or greater must be processed through [student.unsw.edu.au/special-consideration](http://student.unsw.edu.au/special-consideration).

It is always worth submitting late assessment tasks when possible. Completion of the work, even late, may be taken into account in cases of special consideration.

## Examinations

There is no examination for this course.

### 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](#).

## 6. Expected resources for students

No prescribed textbook.

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: <http://info.library.unsw.edu.au/web/services/services.html>



Further information on School policy and procedures in the event of plagiarism is available on the [intranet](#).

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# Appendix A: Engineers Australia (EA) Stage 1 Competencies for Professional Engineers

	Program Intended Learning Outcomes
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**PE1: Knowledge  
and Skill Base**