



# Course Outline

Term 3, 2019

**MECH9761**

**AUTOMOBILE ENGINE TECHNOLOGY**

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# 1. Staff contact details

## **Contact details and consultation times for course convenor**

The lecturer and demonstrators will be available to answer questions regarding the course during normal office hours and by e-mail (preferred).

Name:

## Contact hours

	<b>Week</b>	<b>Day</b>	<b>Time</b>	<b>Location</b>
<b>Lectures</b>	1-3, 7-11	Monday	1pm – 3:30pm	Old Main Building Room 149 (K15-





## 6. Assessment

### Assessment overview

Assessment	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
Online interactive lectures	10 modules	10% (1% each)	1, 2, 4	Comprehension of technical concepts	A total of 10 modules must be completed by the end of week 11	Week 12	Completion counts 1%, which is recorded immediately on Moodle
Mid-term test	1 hour	20%	1, 2, 3	Course content from week 1-3 inclusive.	Week 5 or 6 when you do not attend the lab	N/A	Week 10 demo
Lab report	Four weeks	Lab attendance 5%, Report 15% (20% total)	1, 2, 3	Lecture materials from weeks 1-4	A pdf file uploaded to Moodle Turnitin by week 8 or 9 demo depending on your lab schedule	One week from the due date	Week 11 demo

## Assignments

### *Presentation*

All submission should be uploaded to Moodle in a pdf format.

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.

### *Submission*

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.

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:

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

### *Marking*

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.

## Examinations

You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods: February for Su1 0r TQ1ts and examinationsary for Su1 0r T



For further information on exams, please see the [Exams](#) webpage.

### *Calculators*

You will need to provide your own calculator of a make and model approved by UNSW for the examinations. The list of approved calculators is available at [student.unsw.edu.au/exam-approved-calculators-and-computers](http://student.unsw.edu.au/exam-approved-calculators-and-computers)

It is your responsibility to ensure that your calculator is of an approved make and model, and to obtain an “Approved” sticker for it from the [Engineering Student Support Services Centre](#) prior to the examination. Calculators not bearing an “Approved” sticker will not be allowed into the examination room.

### **Special consideration and supplementary assessment**

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.

**Please note** that UNSW now has a [Fit to Sit / Submit rule](#), which means that if you sit 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](#).

## 7. Expected resources for students

Lecture notes will be uploaded to Moodle prior to the lecture.

Moodle: <https://moodle.telt.unsw.edu.au/login/index.php>

Textbook reading is suggested for improved understanding; however, all of the assessments are based on the materials provided by the lecturer and demonstrators. Please refer to the course schedule for the suggested reading from the text books. The selected text books are:

*Internal Combustion Engine Fundamentals Second Edition*, J. B. Heywood, McGraw-Hill, 2018

Copies of these text books are available in the UNSW bookshop and library.

<https://www.library.unsw.edu.au/>

Additional readings for the up-to-date engine technologies and combustion science can be found in the variety of journals. Students can get a free access to the full contents of the articles from the following websites (need an access through the UNSW IP address):

SAE (Society of Automotive Engineers) Digital Library  
<http://digitallibrary.sae.org/quicksearch/>

Progress in Energy and Combustion Science  
<http://www.sciencedirect.com/science/journal/03601285>

Fuel (the journal)  
<http://www.sciencedirect.com/science/journal/00162361>

Energy and Fuels  
<http://pubs.acs.org/journal/enfuem>

Combustion and Flame  
<http://www.sciencedirect.com/science/journal/00102180>

Proceedings of the Combustion Institute  
<http://www.sciencedirect.com/science/journal/15407489>

## 8. Course evaluation and development

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

In this course, recent improvements resulting from student feedback include much clearer marking criteria on the assignments and much more attractive lecture times (previously it was on Fri afternoon).

## 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: [student.unsw.edu.au/plagiarism](http://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

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

# Appendix A: Engineers Australia (EA) Competencies

## Stage 1 Competencies for Professional Engineers

	<b>Program Intended Learning Outcomes</b>
<b>PE1: Knowledge and Skill Base</b>	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
<b>PE2: Engineering Application Ability</b>	