



Source Outline

Term 1 2020

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1. Staff contact details

Contact details and consultation times for course convenor

Dr John Olsen
J17 Ainsworth Building 311/C
Tel (02) 9385 5217
Fax (02) 9663 1222
Email j.olsen@unsw.edu.au

Consultation with me concerning this course will be available at a time to be decided.
Consultation by email should only be used as a last resort as it is clumsy and inefficient.

Contact details and consultation times for additional lecturers/demonstrators/lab staff

Please see the course [Moodle](#).

2. Important links

[Moodle](#)

[Lab Access](#)

[Health and Safety](#)

[Computing Facilities](#)

[Student Resources](#)

[Course Outlines](#)

[Engineering Student Support Services Centre](#)

[Makerspace](#)

[UNSW Timetable](#)

[UNSW Handbook](#)

[UNSW Mechanical and Manufacturing Engineering](#)

3. Course details

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

The normal workload expectations of a student are approximately 25 hours per term for each UOC, including class contact hours, other learning activities, preparation and time spent on all assessable work.

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

Contact Hours

	Day	Time	Location
Lectures	Monday	14:00 - 16:00	Mathews Theatre A (K-D23-201)
	Thursday	14:00 - 16:00	Mathews Theatre A (K-D23-201)
Laboratories	See Appendix B: Laboratory timetable		
Demonstrations	See Appendix C: Consultation Periods		
Class Test Week 7	Thursday	14:00 - 16:00	Mathews Theatre A (K-D23-201); Electrical Engineering G22 (K-G17-G22); Colombo Theatre B (K-B16-LG04) **See Moodle for the room you will be allocated to

Two-hour laboratory period

There are 2 compulsory 2-hour laboratories periods in the weeks indicated for your group in the attached laboratory timetable (see **Appendix B: Laboratory timetable**), and they take place in the Willis Annexe (J18).

6. Assessment

Assessment Overview

Assessment	Group Project? (# Students per group)	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
Laboratories	No	2 hours each	20% (2 x 10%)	1, 2 & 3	Lecture material	On the day of your assigned laboratories. See Appendix B: Laboratory timetable.	N/A	On the day
Class test Lecture Theatre	No	1 hour	30%	1, 2 & 3		Week 7 Monday 12:26-4:53		

Laboratories

You are required to obtain a bound laboratory book (alternate lined and graph pages) to record results of each experiment and analysis carried out whilst in the laboratory.

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.

The laboratory demonstrators will give instructions on how to operate the equipment and will explain what is required of you. **If in doubt**, ask. It is important that you fully understand the experiment at the time it is performed.

Submission of preliminary work which is not your own, or copying during the laboratory period, will result in a mark of zero for the laboratory.

Preparation

Preparation prior to the laboratory periods is essential. Study the laboratory notes so that you know what the experiment is about in advance of each laboratory session. If you arrive without the necessary preparation, you may not be allocated the laboratory mark.

Bring a calculator to all laboratory periods.

You will not be admitted to the laboratory unless you are appropriately dressed for safe working, have a laboratory book, a calculator and present the assigned preliminary work.

Laboratory Safety

All staff and students must observe all safety requirements in the laboratory. You must come to the laboratory dressed for work, **NO LOOSE OR BAGGY CLOTHING, NO SANDALS OR BARE FEET**. Before beginning any experiment, inspect all equipment you will use for potential hazards. While using laboratory equipment, keep alert for any developing hazard, e.g. unusual noise, vibration, unusual data trends etc.

Examinations

You must be available for all tests and examinations.

Final examinations for each course are held during the University examination periods: February for Summer Term, May for T1, August for T2, and November/December for T3.

Please visit myUNSW for Provisional Examination timetable publish dates.

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

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 Supper Services Centsibibibiouios prov](#)

Late Submission

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 percent (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.

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

Both of these are available in the UNSW bookshop.

You really must buy these books. If you are going to be a professional engineer, you will need references in the future. Some of the questions you are expected to try are in the first reference. Although the first reference contains a set of steam tables, they are of a different type to those found in Mayhew & Rogers. You will be required to be able to use those found in Mayhew & Rogers as these will be supplied in the final exam.

Suggested additional reading

M. J. Moran, H. N. Shapiro, D. D. Boettner & M. B. Bailey, (2018) *Fundamentals of engineering thermodynamics*, S.I. version, 9th Edition, John Wiley & Sons.

R. Scruton, (2012) *Green Philosophy. How to think seriously about the planet*, Atlantic Books London.

Schmidt, (2019) *Technical thermodynamics for engineers, basics and applications*, Springer.

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Additional materials provided in UNSW Moodle

This course has a website on UNSW Moodle which includes:
the laboratory handouts;
consultation notes (questions and numerical answers);

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

Recommended internet sites

Be very careful when looking at websites that discuss thermodynamics. The sign conventions used in thermodynamics are not uniform around the world, and some of these websites can therefore **strongly mislead students**. For example, the following website gives a very good definition of temperature:

<http://www.chemistryexplained.com/St-Te/Temperature.html>.

You should read this sometime.

But if you go to:

<http://www.chemistryexplained.com/Te-Va/Thermodynamics.html>

you will notice that the first law (equation (1)) is not written with the sign convention we use here in Australia. This may get students into a lot of trouble. The best approach for beginners is to use the texts recommended for the course.

Other Resources

If you wish to explore any of the lecture topics in more depth, then other resources are available and assistance may be obtained from the UNSW Library.

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



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.

The course has undergone considerable change since last year.

9. Academic honesty and plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic



Appendix C: Consultation Periods

Class Section	Day	Time	Location
H09A	Thursday	9:00 – 10:00	Webster 256
H09B	Thursday	9:00 – 10:00	Quad G045
H11A	Thursday	11:00 – 12:00	Law 276
H11B	Thursday	11:00 - 12:00	RedC 2061
M16A	Monday	16:00 – 17:00	Webster 250
W09A	Wednesday	9:00 – 10:00	Ainsworth 101
W09B	Wednesday	9:00 – 11:00	Ainsworth G01
W11A	Wednesday	11:00 – 12:00	RedC 3037
W11B	Wednesday	11:00 – 12:00	RedC 2035
W13A	Wednesday	13:00 – 14:00	Quad G031
W13B	Wednesday	13:00 – 14:00	Law G17

Consultation periods start in week 2 and finish in week 11.