



**UNSW**

## UNSW Course Outline

# MMAN2700 Thermodynamics - 2024

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## General Course Information

**Course Code :** MMAN2700

**Year :** 2024

**Term :** Term 1

**Teaching Period :** T1

**Is a multi-term course? :** No

**Faculty :** Faculty of Engineering

**Academic Unit :** School of Mechanical and Manufacturing Engineering

**Delivery Mode :** In Person

**Delivery Format :** Standard

**Delivery Location :** Kensington

**Campus :** Sydney

**Study Level :** Undergraduate

**Units of Credit :** 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

This course introduces the students to the terminology, principles and methods used in engineering thermodynamics.

The word “thermodynamics” was coined by Lord Kelvin from Greek words for heat (therme) and power (dynamis). Given that power is the rate at which work is performed, it follows that the word thermodynamics captures two of the most important ways in which energy is transferred, i.e. through heat and work. The subject of thermodynamics is therefore about energy and its transformations.

Thermodynamics has a broad application area ranging from microscopic organisms to common household appliances, transportation vehicles, power generation systems and even philosophy. The knowledge of thermodynamics gained in this course is essential to many other courses studied in mechanical engineering degree programme, such as advanced thermofluids, aerospace propulsion, internal combustion engines, refrigeration, air conditioning and solar energy.

This introductory course covers basic concepts of thermodynamics: Systems, property, state, path, process; Work and heat; Properties of pure substances; Tables of properties and equations of state; First law of thermodynamics; Analysis of closed and open systems; Second law of thermodynamics; Carnot cycle; Clausius inequality, entropy, irreversibility, isentropic efficiencies; Air-standard cycles; Vapour cycles.

## Course Aims

This course aims to prepare students for future studies in thermodynamics through the introduction of some common uses of thermodynamics and the analysis of thermodynamic cycles. Specifically, the aims of the course are to:

- Introduce students to the terminology associated with thermodynamics. Students will develop an understanding of the deeper meanings of familiar words like energy, heat, work, temperature, reversible as well as not so familiar words like entropy.
- Familiarise students with the 1st and 2nd laws of thermodynamics and teach students how to apply these laws.
- Instruct students in analysing air standard cycles, vapour power cycles for large power plants and vapour compression refrigeration cycles.

# Course Learning Outcomes

Course Learning Outcomes
CLO1 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.
CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.
CLO3 : Apply the 2nd law of thermodynamics to analyse the behaviour of internal combustion engines (air-standard cycles), vapour and refrigeration cycles
CLO4 : Carry out, on working machinery, measurements of thermodynamic and mechanical properties and identify links between theoretical analysis methods and actual performance.

Course Learning Outcomes	Assessment Item
CLO1 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.	<ul style="list-style-type: none"><li>• Quizzes</li><li>• Laboratory 1</li><li>• Laboratory 2</li><li>• Final Exam</li></ul>
CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.	<ul style="list-style-type: none"><li>• Quizzes</li><li>• Laboratory 1</li><li>• Laboratory 2</li><li>• Final Exam</li></ul>
CLO3 : Apply the 2nd law of thermodynamics to analyse the behaviour of internal combustion engines (air-standard cycles), vapour and refrigeration cycles	<ul style="list-style-type: none"><li>• Laboratory 2</li><li>• Final Exam</li></ul>
CLO4 : Carry out, on working machinery, measurements of thermodynamic and mechanical properties and identify links between theoretical analysis methods and actual performance.	<ul style="list-style-type: none"><li>• Laboratory 1</li><li>• Laboratory 2</li></ul>

## Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Quizzes Assessment Format: Individual	30%	Start Date: Quiz 1: 28/02/24 6pm; Quiz 2: 13/03/24 6pm; Quiz 3: 27/03/24 6pm Due Date: Quiz 1: 28/02/24 7pm; Quiz 2: 13/03/24 7pm; Quiz 3: 27/03/24 7pm
Laboratory 1 Assessment Format: Individual	15%	Start Date: Not Applicable Due Date: Due by midnight the day after attending the lab (week 4)
Laboratory 2 Assessment Format: Individual	15%	Start Date: Not Applicable Due Date: Due by midnight the day after attending the lab (weeks 8-9)
Final Exam Assessment Format: Individual	40%	Due Date: Exam Period

## Assessment Details

### Quizzes

#### Assessment Overview

Assessment length: 1 hour

The purpose of this assignment is to examine your knowledge of key concepts of thermodynamics and your ability to apply concepts covered in the first 3 topics. Each quiz is worth 10%.

- Online quiz 1 covers Topic 1 material: Systems and Energy.
- Online quiz 2 covers Topic 2 material: Energy balances.
- Online quiz 3 covers Topic 3 material: Properties of pure substances.

There are different types of questions such as multiple choice/answer and numerical answer questions.

### Feedback mechanism

Marks will be returned within 2 days from submission.

#### Course Learning Outcomes

- CL01 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.

- CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.

### **Submission notes**

Moodle Quiz

### **Assignment submission Turnitin type**

This is not a Turnitin assignment

## **Laboratory 1**

### **Assessment Overview**

**Assessment length:** 2-hour lab, 10-page report

Laboratory 1 (thermodynamic processes experiment).

The purpose of this assignment is to allow you to perform lab experiments that are based upon less intuitive concepts in thermodynamics and compare their actual data with the theory. You will get the opportunity to develop skills such as following written instructions, recording readings and data and writing technical reports. This will help you get a deeper understanding of concepts taught in class and develop written communication proficiency.

### **Assessment criteria**

#### **Preliminary work**

Students are required to complete a pre-laboratory work to demonstrate their knowledge prior to attending the laboratory or accessing the experiment video. Preliminary work answers are to be made via the submission portal. All students are to submit their prelab work before attending the lab. For face-to-face students, please bring a copy of your preliminary work to the lab to record your data into.

#### **Lab report**

Students will write a laboratory report in which they analyse the recorded data during the laboratory sessions and demonstrate their understanding of the thermodynamic principles at work. Submission of the post-processing of your results is to be made via the submission portal made. All submissions must be typed and be in a single document in pdf format. Screenshots or images of handwritten answers embedded into a document will not be accepted. Details for this report will be provided.

## **Marking**

Marking guidelines for laboratory submissions will be provided at the same time as laboratory report details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

Assessment of laboratory reports will contribute 2x15% to the final mark. Marks will be allocated for completion of preliminary analysis, results obtained and calculations made during the laboratory period (5 marks for preliminary work, 10 marks for measurements, data analysis and conclusions).

**Preliminary work must be submitted before attending the lab. Consequently, no late submission for the preliminary work will be accepted and a mark of zero will be awarded.**

## **Feedback mechanism**

Individual written feedback and marks will be returned within 2 weeks from submission.

### **Course Learning Outcomes**

- CLO1 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.
- CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.
- CLO4 : Carry out, on working machinery, measurements of thermodynamic and mechanical properties and identify links between theoretical analysis methods and actual performance.

### **Assessment Length**

2-hour lab

### **Submission notes**

Moodle Hand In

### **Assessment information**

For this assessment task, you may use standard editing and referencing software, but not generative AI. You are permitted to use the full capabilities of the standard software to answer the question (e.g. Microsoft Office suite, Grammarly, EndNote, Zotero, etc.). If the use of generative AI such as ChatGPT is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

According to UNSW plagiarism policy, "where a student is repeating a course, they should seek permission from the course coordinator before re-submitting, in whole or part, the same piece of

assessment". If not, this will be considered as self-plagiarism and a mark of 0% will be awarded for this assignment.

### **Assignment submission Turnitin type**

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

## **Laboratory 2**

### **Assessment Overview**

**Assessment length:** 2-hour lab, 10-page report

Laboratory 2 (compressor performance).

The purpose of this assignment is to allow you to perform lab experiments that are based upon less intuitive concepts in thermodynamics and compare their actual data with the theory. You will get the opportunity to develop skills such as following written instructions, recording readings and data and writing technical reports. This will help you get a deeper understanding of concepts taught in class and develop written communication proficiency.

Assessment criteria

### **Preliminary work**

Students are required to complete a pre-laboratory work to demonstrate their knowledge prior to attending the laboratory or accessing the experiment video. Preliminary work answers are to be made via the submission portal. All students are to submit their prelab work before attending the lab. For face-to-face students, please bring a copy of your preliminary work to the lab to record your data into.

### **Lab report**

Students will write a laboratory report in which they analyse the recorded data during the laboratory sessions and demonstrate their understanding of the thermodynamic principles at work. Submission of the post-processing of your results is to be made via the submission portal made. All submissions must be typed and be in a single document in pdf format. Screenshots or images of handwritten answers embedded into a document will not be accepted. Details for this report will be provided.

### **Marking**

Marking guidelines for laboratory submissions will be provided at the same time as laboratory report details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

Assessment of laboratory reports will contribute 2x15% to the final mark. Marks will be allocated for completion of preliminary analysis, results obtained and calculations made during the laboratory period (5 marks for preliminary work, 10 marks for measurements, data analysis and conclusions).

**Preliminary work must be submitted before attending the lab. Consequently, no late submission for the preliminary work will be accepted and a mark of zero will be awarded.**

### **Feedback mechanism**

Individual written feedback and marks will be returned within 2 weeks from submission.

### **Course Learning Outcomes**

- CLO1 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.
- CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.
- CLO3 : Apply the 2nd law of thermodynamics to analyse the behaviour of internal combustion engines (air-standard cycles), vapour and refrigeration cycles
- CLO4 : Carry out, on working machinery, measurements of thermodynamic and mechanical properties and identify links between theoretical analysis methods and actual performance.

### **Assessment Length**

2-hour lab

### **Assessment information**

For this assessment task, you may use standard editing and referencing software, but not generative AI. You are permitted to use the full capabilities of the standard software to answer the question (e.g. Microsoft Office suite, Grammarly, EndNote, Zotero, etc.). If the use of generative AI such as ChatGPT is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

According to UNSW plagiarism policy, "where a student is repeating a course, they should seek permission from the course coordinator before re-submitting, in whole or part, the same piece of assessment". If not, this will be considered as self-plagiarism and a mark of 0% will be awarded for this assignment.

### Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

## **Final Exam**

### Assessment Overview

**Assessment length:** 2 hours

The purpose of this assignment is to examine your ability to solve problems on closed and open systems and to analyse the behaviour of different cycles such as air-standard cycles (internal combustion engines), vapor and refrigeration cycles. The final exam will assess the entire content of this course.

Problem sheets with detailed solutions will be provided to students to practice the skills required for the final exam. Some exam questions have been included in the worked examples covered in lectures and example classes. Support is also available from demonstrators and course convenor.

Marking will be against specific criteria based on the problem-solving technique. For each exam question, this includes a brief problem statement, a schematic, a list of assumptions made to solve the problem, a list of relevant physical laws, a list of properties, calculations and finally a discussion point.

Individual assessment.

### Course Learning Outcomes

- CLO1 : Demonstrate knowledge of key concepts of thermodynamics such as heat, work, internal energy.
- CLO2 : Apply the 1st law of thermodynamics to solve steady-state problems on closed and open systems.
- CLO3 : Apply the 2nd law of thermodynamics to analyse the behaviour of internal combustion engines (air-standard cycles), vapour and refrigeration cycles

### Assessment Length

2 hours

## **General Assessment Information**

### Grading Basis

Standard

## Requirements to pass course

To pass this course, students must achieve a total course mark of at least 50 out of 100.

# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 1: Systems and Energy • Course organisation • What is thermodynamics • Early engines • A problem solving template • Systems and their properties (definitions)
	Workshop	Example class (Thursday)
Week 2 : 19 February - 25 February	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 1: Systems and Energy • Work and heat • Sign convention • 1st law of thermodynamics and its 3 corollaries • Internal energy • Ideal gases
	Workshop	Example class (Thursday)
Week 3 : 26 February - 3 March	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 2: Energy balances • Flow work • Enthalpy • Specific heats • Moving boundary work
	Workshop	Example class
Week 4 : 4 March - 10 March	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 2: Energy balances • Worked examples (moving boundary work) • Isentropic and polytropic processes + worked examples
	Workshop	Example class (Thursday)
	Laboratory	Lab 1: Thermodynamic processes experiment (Thermoboard)
Week 5 : 11 March - 17 March	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 3: Properties of pure substances • Ideal gas vs Pure substance • Phase diagram • p-V and p-T diagrams • Thermodynamics property tables • Worked examples
	Workshop	Example class (Thursday)
Week 6 : 18 March - 24 March	Workshop	Example class (Thursday)
Week 7 : 25 March - 31 March	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 4: 1st law of thermodynamics in open systems • Steady flow energy equation • Nozzle and diffusers • Turbines / Compressors / Throttle valves
	Workshop	Example class (Thursday)
Week 8 : 1 April - 7 April	Lecture	Tuesday 2-4pm Topic 5: Second law of thermodynamics • Reversible heat engine • Kelvin-Planck and Clausius statements • Refrigerators and heat pumps • Reversibility • Carnot cycle
	Workshop	Example class (Thursday)
	Laboratory	Lab 2: Compressor performance
Week 9 : 8 April - 14 April	Lecture	Monday 4-6pm; Tuesday 2-4pm Topic 5: Second law of thermodynamics • The increase of entropy principle • Isentropic efficiencies (turbines and compressors) • Applications

Week 10 : 15 April - 21 April	Workshop	Example class (Thursday)
	Lecture	Monday 4-6pm; Tuesday 2-4pm Revisions
	Workshop	Example class (Thursday)

## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## Course Resources

### Prescribed Resources

#### Textbooks

- Y.A. Cengel, M.A. Boles & M. Kanoglu, Thermodynamics, an engineering approach, 10th, S.I. Edition, McGraw Hill Education..
- G.F.C. Rogers & Y.R. Mayhew, Thermodynamic and Transport Properties of Fluids, S.I. Units, Basil Blackwell.

Both of these are available in the UNSW bookshop (links for the Print and Digital books below).

#### Print:

<https://www.bookshop.unsw.edu.au/details.cgi?ITEMNO=9781266152115>

<https://www.bookshop.unsw.edu.au/details.cgi?ITEMNO=9780631197034>

#### Digital:

<https://unswbookshop.vitalsource.com/products/-v9781266313240>

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 in the Moodle quizzes and final exam.

## Recommended Resources

#### 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.
- A. Bejan, (2006) Advanced engineering thermodynamics, 3rd edition, John Wiley & Sons.
- R.E. Sonntag and G.J. Van Wylen, (1991) Introduction to thermodynamics classical and statistical, 3rd Edition, John Wiley & Sons.
- D.S. Lemons, (2013) A students guide to entropy, Cambridge University Press.
- J.R. Reisel, (2016) Principles of engineering thermodynamics, S.I. edition, Cengage Learning.
- P.W. Atkins, (2008) Four laws that drive the universe, Oxford University Press, or
- P.W. Atkins, (2010) The laws of thermodynamics. A Very Short Introduction., Oxford University Press. They are the same book.
- P.W. Atkins, (1994) The 2nd Law, energy, chaos & form, Scientific American Publications.
- P.W. Atkins, (2003) Galileo's finger, the ten great ideas of science, Oxford University Press (Chapters 3 & 4).
- H.C. von Baeyer, (1999) Warmth disperses and time passes, the history of heat, (previously published as Maxwell's demon), The Modern Library, New York.

Most of these titles are available in the UNSW Library and are useful as additional reading material, giving good descriptions.

## 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 more interactive online lectures with the addition of PollEverywhere quizzes and worked examples. Solutions to the problem sheets are provided to the students to support their learning. PowerPoint slides with no solutions are provided to the students prior each lecture to allow them to take notes. Full annotated slides are then released on Moodle.

Finally, the mid-term exam (30%) has been replaced by 3 quizzes in weeks 3, 5 and 7. Each quiz is worth 10% and covers a different topic. It is hoped that removing a high-stake assessment during the term will reduce the pressure on students and encourage them to engage with the course content consistently.

## Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Irene Renaud -Assemat		Ainsworth Building J17, Room 208C		9am-5pm, Mon-Fri	No	Yes

# Other Useful Information

## Academic Information

### I. 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, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, 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](#).

### II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- [Attendance](#)
- [UNSW Email Address](#)
- [Special Consideration](#)
- [Exams](#)
- [Approved Calculators](#)
- [Academic Honesty and Plagiarism](#)
- [Equitable Learning Services](#)

### III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

### IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: <https://www.unsw.edu.au/engineering/student-life/student-resources/program-design>.

*Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.*

## 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, visit: <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 of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

[www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf](http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)

## Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) 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. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be 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 will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

## Faculty-specific Information

[Engineering Student Support Services](#) – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries e.g. admissions, fees, programs, credit transfer

## Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

## **School-specific Information**

### **Short Extensions**

Short extensions are not currently applicable to Mechanical and Manufacturing Engineering Courses.

### **Review of Results**

The purpose of a review of results is if there was a marking error. Review of results is for when you have cause to believe that there is a marking error. Review of Results cannot be used to get feedback. If you would like feedback for assessments prior to the final exam, you are welcome to contact the course convenor directly. No feedback will be provided on final exams.

### **Use of AI**

The use of AI is prohibited unless explicitly permitted by the course convenor. Please respect this and be aware that penalties will apply when unauthorised use is detected, such as through Turnitin. If the use of generative AI, such as ChatGPT, is allowed in a specific assessment, they must be properly credited, and your submissions must be substantially your own work.

## **School Contact Information**

### **Location**

UNSW Mechanical and Manufacturing Engineering

Ainsworth building J17, Level 1

Above Coffee on Campus

### **Hours**

9:00–5:00pm, Monday–Friday\*

\*Closed on public holidays, School scheduled events and University Shutdown

## Web

[School of Mechanical and Manufacturing Engineering](#)

[Engineering Student Support Services](#)

[Engineering Industrial Training](#)

[UNSW Study Abroad and Exchange \(for inbound students\)](#)

[UNSW Future Students](#)

## Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

(+61 2) 9385 4097 – School Office\*\*

\*\*Please note that the School Office will not know when/if your course convenor is on campus or available

## Email

[Engineering Student Support Services](#) – current student enquiries

- e.g. enrolment, progression, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries

- e.g. admissions, fees, programs, credit transfer

## School Office – School general office administration enquiries

- NB: the relevant teams listed above must be contacted for all student enquiries. The School will only be able to refer students on to the relevant team if contacted

## Important Links

- [Student Wellbeing](#)
- [Urgent Mental Health & Support](#)
- [Equitable Learning Services](#)
- [Faculty Transitional Arrangements for COVID-19](#)
- [Moodle](#)
- [Lab Access](#)
- [Computing Facilities](#)
- [Student Resources](#)
- [Course Outlines](#)
- [Makerspace](#)
- [UNSW Timetable](#)
- [UNSW Handbook](#)