



UNSW Engineering

# Bachelor of Engineering (Honours) (Mechanical Engineering)

## What do mechanical engineers do?

Generate new designs and turn them into reality with a degree in Mechanical Engineering. Mechanical engineers develop and operate advanced machines and tools to produce everything from medical implants to advanced transportation and energy systems. They shape our world and contribute to almost all aspects of modern life.

## What will your study involve?

You'll learn how to design and manage the construction, operation and maintenance of advanced devices used in many industries. You'll study specialised mechanical engineering courses including fluid dynamics, mechanics of solids, thermodynamics and heat transfer. You'll bring virtual products to life with computer aided design and simulation. In your last year, you'll bring together the engineering principles you've learned and

apply these to solve problems through the development of a specific design, process or the investigation of a hypothesis.

## UNSW Mechanical Engineering

- 1st in Australia for Mechanical, Aeronautical & Manufacturing Engineering (QS Subject Rankings 2024)
- Learn and explore in best-in-class teaching labs and cutting-edge" facilities which include a flight simulator, mechatronics research" space, a refrigeration and energy storage lab, laser labs, machines for" tensile and compression testing, an aerodynamics laboratory with" four wind tunnels and mechanical workshop
- UNSW has partnerships with industry leaders such as Australia Advanced Aerospace Technology, Hyundai NGV, The Boeing Company and Xinjiang Goldwind Science & Technology

## Program details

**Lowest Selection Rank (4246):** 90

**Duration:** Four-year embedded honours degree

**Study areas:** Motion and Energy, Thermodynamics, Fluid Mechanics, Solid Mechanics, Computer Aided Design and Manufacture (CAD/CAM), Materials Science, Engines and Power, Noise and Vibration

**Assumed knowledge:** HSC level Mathematics Extension 1, Physics

**Portfolio Entry:** UNSW offers the Faculty of Engineering Admission Scheme (FEAS) which is a pathway for students interested in studying undergraduate engineering to support their academic results, find out more at [unsw.to/feas](https://unsw.to/feas)

## Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, is accredited with Engineers Australia, and is also acknowledged by the Washington Accord, which lets you work in over 20 countries across the globe upon graduation.

## Career options

Mechanical Engineering underpins modern machines and devices. You'll work to design and optimise machines that are smaller and more powerful than their predecessors. There's a high demand for mechanical engineers across industries including power generation, transport, construction, mining, manufacturing and medical devices.

## Student Testimonials

"Coming to UNSW Engineering was the best decision of my life. I have been able to experience so many amazing things and it has opened up so many ways for me to have a positive impact on the world. Where else would I have got to build, from scratch a working bionic hand with a team of first-year students?"

**Tsing Lee, Mechanical Engineering**



### Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Engineering Design & Innovation	Elective	Mathematics 1A	Mathematics 1B	Physics 1A	Design and Manufacturing	Engineering Mechanics	Elective	
YEAR 2	Computing for Engineers	Engineering Mathematics 2E		Mechanics of Solids 1	Engineering Mechanics 2	Electrical & Telecommunications Engineering	Engineering Design and Professional Practice	Thermodynamics	Fluid Mechanics
YEAR 3	Mechanical Design 1	Numerical Methods & Statistics	Mechanics of Solids 2	Advanced Thermofluids	Strategic Design Innovation	Linear Systems and Control	General Education	General Education	
YEAR 4	Elective	Elective	Thesis A	Mechanical Design 2	Elective	Thesis B	Elective	Elective	Thesis C

You'll be required to complete 60 days of Industrial Training throughout your degree.

This is a sample degree outline only and may be subject to change. Please refer to the UNSW Handbook for further information and relevant course codes.