UNSW Engineering

Bachelor of Engineering (Honours) (Electrical Engineering)

What do electrical engineers do?

Electrical Engineering encompasses research, design, development, manufacturing and management of complex hardware and software systems, and reliable cost-effective devices. This involves using latest information, methods and computer-intensive technologies. The key skills you will develop focus on photonics, systems and control, energy systems, microelectronics, telecommunications, and signal processing.

What will your study involve?

This degree gives graduates the ultimate analytical skillset for the technology-based world. Most courses contain significant time in the laboratory, providing students with critical practical experience. Top this off with courses in leadership and entrepreneurship, and it's no wonder our graduates are highly sought after. Take this degree alone or combine it with a second degree.

UNSW Electrical Engineering and Telecommunications

- We are ranked #1 in Australia and 41st globally for Electrical Engineering in the 2023 QS World University Rankings.
- We educate the next generation of innovative engineers with the skills and knowledge to make a positive impact on industry and the community.
- Our strong industry links provide opportunities for industry partnerships and professional development.
- Our facilities are globally renowned for developing industry standard practical experience.

Program details

Lowest Selection Rank (2023): 90

Duration: Four-year embedded honours degree

Study areas: Energy Systems, Microsystems, Photonics, Systems and Control, Signal Processing, Wireless and Data Networks

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

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

Electrical Engineering opens up a huge range of challenging and rewarding career paths. Potential employers are found in the telecommunications and biomedical fields, and with energy utilities.

Large private industrial groups – such as Thales, Alstom, BHP, Boeing Australia, Dolby Australia, Honeywell, IBM and Google – are also regular employers.

Student Testimonials

"I wanted to be on the intersection of computing and the real world. Electrical engineers have a unique opportunity to use technological innovation to bring large-scale improvements to our interactions with the planet. And the overall camaraderie at UNSW contributes to a tonne of incredible experiences."

Douglas George, Electrical Engineering (Honours)

Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Electrical Circuit Fundamentals	Introduction to Engineering Design & Innovation	Mathematics 1A	Programming Fundamentals	Mathematics 1B	Higher Physics 1A	Computer Systems Fundamentals	Higher Physics 1B	Mathematics 2A
YEAR 2	Circuits and Signals	Digital Circuit Design	General Education	Analogue Electronics	Engineering Design and Professional Practice	Mathematics 2B	Elective	Digital Signal Processing	General Education
YEAR 3	Electronics	Electromagnetic Engineering	Analogue and Digital Communications	Electrical Energy	Electrical Engineering Design	Control Systems	Industrial Training		
YEAR 4	Strategic Leadership & Ethics	Elective	Thesis A	Elective	Elective	Thesis B	Electrical Design Proficiency	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.