UNSW Engineering

Bachelor of Engineering (Honours) (Computer Engineering)

What do computer engineers do?

Computer engineering is the study of hardware and software components for the integrated design of computerised systems. It incorporates the theory of electrical engineering with the methods of computer science. This degree covers the theory, design, development and application of computer systems for any purpose, including consumer electronics, transportation systems, medical equipment and telecommunications.

What will your study involve?

Computer engineering combines both hardware and software design to create general or special-purpose systems. These range from mobile phones to game design to aircraft flight control systems and everything in between. You'll study maths and physics as well as core computing, digital design and electronics courses. You also have the choice to study electives in areas like networks, operating systems, embedded systems, telecommunications, and artificial intelligence.

UNSW Computer Science and Engineering

- UNSW Computer Science and Engineering is ranked 3rd in Australia by the 2023 QS Rankings.
- UNSW Computer Science and Engineering is one of the largest schools of its kind in Australia which provides the most technically challenging computing degrees in the country.
- UNSW Computer Science and Engineering is home to five-time world robot soccer champions, the UNSW 'rUNSWift' team.

Program details

Lowest Selection Rank (2023): 90

Duration: Four-year embedded honours degree

Study areas: Advanced Computing, Digital Design, Electronics, Embedded Systems, Computer System Design

Assumed knowledge: 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.

This degree is also accredited by the Australian Computer Society.

Career options

Graduates can work in fields as diverse as agricultural technology, embedded systems, very large-scale integration (VLSI) design, and the banking and finance sectors. Jobs are available in computer systems design, data analysis, consulting, development, digital services, health, logistics, research, software engineering, computer security and many other fields.

Student Testimonials

"I'm fascinated by the creative potential in Computer Engineering and this degree has provided the right balance of electrical and software subjects to mix my creative and analytical skills rewardingly. I was particularly inspired by the sheer power of the computers available in the iCinema Centre."

Ojasvi Chavali, Computer Engineering (Honours)

Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Engineering Design & Innovation	Programming Fundamentals	Electrical Circuit Fundamentals	Mathematics 1A	Physics 1A	Computer System Fundamentals	Mathematics 1B	Physics 1B	General Education
YEAR 2	Software Engineering Fundamentals	Data Structures and Algorithms		Engineering Design and Professional Practice	Mathematics 2B	Analogue Electronics	Digital Circuits and Systems	Mathematics 2A	Circuits & Signals
YEAR 3	Computer Architecture	Operating Systems	Elective	Object-Oriented Design & Programming	Elective	General Education	Design Project A	Elective	
YEAR 4	Design Project B	Elective	Research Thesis A	Elective	Elective	Thesis B	Professional Issues and Ethics in Information Technology		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.