UNSW Engineering

Bachelor of Advanced Computer Science (Honours)

Use your advanced analytical skills to design and build the technologies of the future. This four-year degree is designed for students who wish to challenge themselves to develop the expertise, technical skills and practical experience that will put them in-demand, both now and into the future. Graduate ready to make an impact across information technology and innovation, wherever your career takes you.

This degree sets you up with a solid foundation in programming, software engineering, computer hardware, data structures and algorithms. You'll then dive into your areas of interest through advanced computing electives and an Honours thesis. Students who wish to pursue further research are well-placed to continue their studies with a PhD, with the opportunity to innovate new solutions to some of the world's most complex issues.

What will your study involve?

You'll study Advanced Computer Science electives to understand the representation of data and data structures and the design of algorithms for programming languages and machine systems.

You will also complete an Honours thesis which provides an opportunity for you to bring together the computer science principles learned over your previous years of study and apply these principles to innovatively solve problems in a specially chosen area. Students who wish to continue to build on their Honours project and pursue further research can continue their studies with a PhD.

UNSW Computer Science and Engineering

- UNSW Computer Science and Engineering is ranked #3 in Australia by 2023 QS World 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): N/A

Duration: 4-year degree (embedded honours)

Study areas: Artificial Intelligence, Computer Science and Security Engineering

Assumed knowledge: Mathematics Extension 1

Accreditation

Accreditation from the Australian Computer Society is in progress.
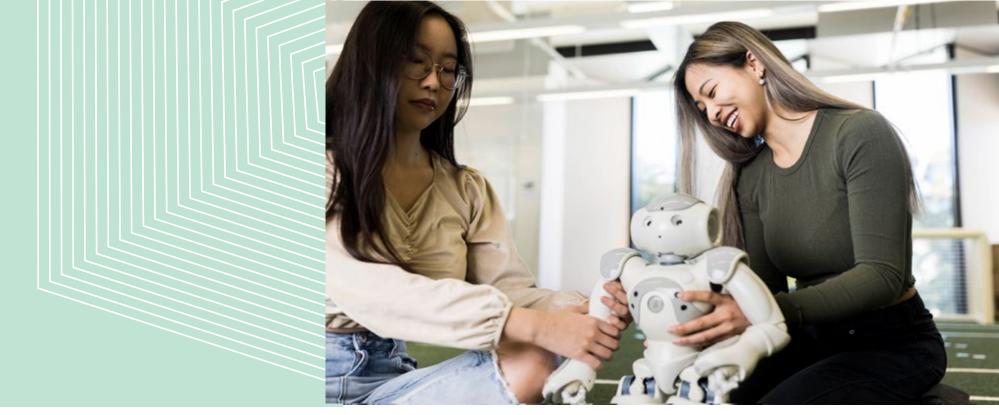
Career options

Careers options in computer science are diverse with many graduates employed as programmers, systems analysts and database administrators. Primary employers include software and web-based companies, commercial institutions, and robotics, AI and IT units.

Student Testimonials

"It's great being able to understand how the devices we use every day are made, and how they can improve in the future. I always enjoyed building things growing up and my degree lets me do this on a huge scale. I am very excited to be able to work all over the world and to help solve its biggest challenges."

James Roberts-Thomson, Computer Science

Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Programming Fundamentals	Higher Mathematics 1A	Discrete Mathematics	Data Structures and Algorithms	Higher Mathematics 1B		Computer Systems Fundamentals	Software Engineering Fundamentals	Elective
YEAR 2	Extended Algorithms and Programming Techniques	Elective		Object-Oriented Design & Programming	Computing Elective	Elective	Computing Elective	Computing Elective	General Education
YEAR 3	Professional Issues & Ethics in Information Technology	Computing Elective	Elective	Advanced Computing Elective	Elective	General Education	Computer Science Project	Advanced Computing Elective	
YEAR 4	Thesis A	Advanced Computing Elective	Computing Elective	Thesis B	Advanced Computing Elective	Elective	Thesis C	Advanced Computing Elective	

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.