UNSW Engineering

# Bachelor of Science (Computer Science)

## What do computer scientists do?

Computer scientists use computer technology to solve a vast array of problems in today's world, e.g. financial forecasting, climate analysis, processing medical images, sending files and messages, streaming videos as quickly as possible across the internet, and so on.

A majority of activity today involves computing, at least in the background. Computer scientists develop the algorithms and techniques for the computer systems that sit behind the modern world.

## What will your study involve?

This degree combines science with strong engineering principles and a focus on design. There are up to 18 free and professional electives, giving you the flexibility to tailor your degree with subjects from engineering, science, arts or business. You'll graduate understanding the basic principles behind computing tools, operating systems, compilers and translators, and computer hardware.

## UNSW Computer Science and Engineering

- UNSW Computer Science and Engineering is ranked #1 in Australia by Times Higher Education.
- 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 (2022):** 90

**Duration:** 3-year degree
(+1 year honours option)

**Study areas:** Artificial Intelligence, Computer Networks, Computer Science, Database Systems, Embedded Systems, Programming Languages, Security Engineering

**Assumed knowledge:** Mathematics Extension 1

**Alternative Entry:** Faculty of Engineering Admission Scheme (FEAS), as an alternative pathway for students who want to study at UNSW but don't meet the required selection rank, find out more at unsw.to/feas

## Accreditation

Your Bachelor of Science (Computer Science) degree is recognised globally, and is accredited by the Australian Computer Society

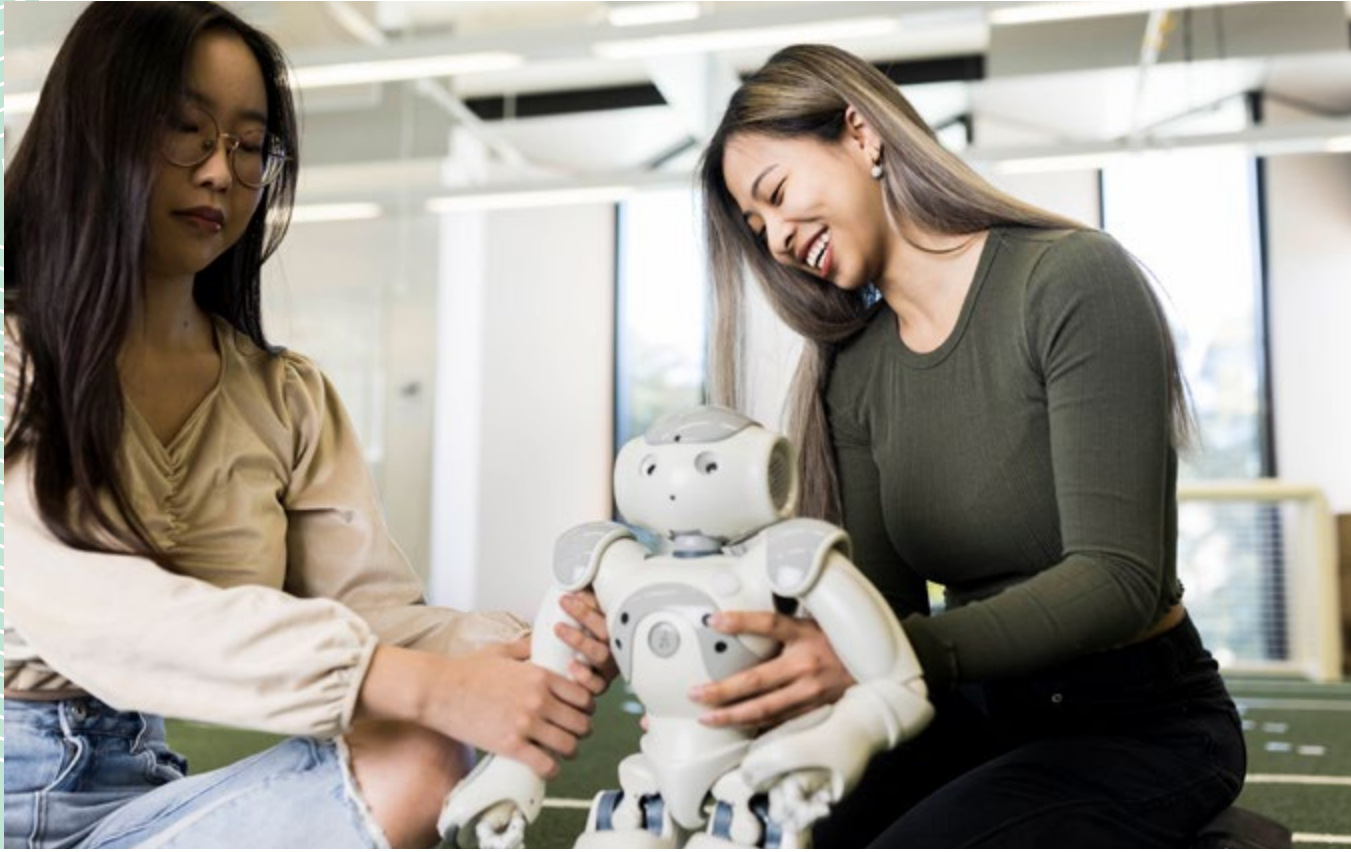
## Career options

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 | Mathematics 1A | | Data Structures and Algorithms | Mathematics 1B | Computer System Fundamentals | Software Engineering Fundamentals | Discrete Mathematics | Elective |
| YEAR 2 | Comp Elective | Elective | General Education | Object-Oriented Design & Programming | Comp Elective | Elective | Comp Elective | Elective | |
| YEAR 3 | Algorithms and Programming Technique | General Education | Professional Issues & Ethics in Information Technology | Comp Elective | Elective | | Computer Science Project | Comp Elective | 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.

Five of the chosen electives need to be COMP3 or higher (or COMP2041 or ENGG2600)