UNSW Engineering

Four Computing Degrees: What sets them apart?

	Computer Engineering	Software Engineering	Computer Science (Advanced)	Computer Science
Focus	Computer engineering has a focus on computer systems design and development including digital circuits and computer architecture	Software engineering has a focus on computer software design and project management	Computer Science (Advanced) has a strong focus in programming, software engineering, computer hardware, data structures and algorithms, as well as research	Computer science has a focus on data representation and structures, and algorithms for programming languages and machine systems
Degree	Bachelor of Engineering (Hons)	Bachelor of Engineering (Hons)	Bachelor of Advanced Computer Science	Bachelor of Science (Computer Science)
Duration	4 years	4 years	4 years	3 years
Study Areas	The available majors are: • Computing • Electronics • Embedded Systems • Operating Systems • Networks • Systems and Control • Telecommunications	The available majors are: • Computing • Software Engineering • Software Development • Software Process • System Design	The available majors are: • Computer Science • Artificial Intelligence • Security Engineering • Theoretical Computer Science	The available majors are: • Computer Science • Artificial Intelligence • Computer Networks • Database Systems • Embedded Systems • Programming Languages • Security Engineering
Program Structure	Common first year covering introductory courses in mathematics, physics and computing.	Common first year covering introductory courses in mathematics, and computing.	Core courses including mathematics, programming, computer systems, software engineering, data structures, ethics, software design and architecture, algorithms.	Core courses including mathematics, programming, computer systems, software engineering, data structures, ethics, software design and architecture, algorithms
	Courses from study areas above plus electives to deepen knowledge	Courses from study areas above plus electives to deepen knowledge	Study courses relevant to your major of choice Two general electives Option minor in Mathematics	Possible minor in: • Accounting • Finance • Information Systems • Marketing • Psychology • Mathematics
	60 days of Engineering Professional Practice	60 days of Engineering Professional Practice		
	Final year thesis	Final year thesis	Final year thesis	Final year thesis
		Team-based workshops that focus on project work		
Accreditation	Engineers Australia & Australian Computer Society	Engineers Australia & Australian Computer Society	Australian Computer Society	Australian Computer Society
Career Opportunities	Computer Engineers work with computer systems of any type, including desktops and laptops but also embedded systems for gaming, vehicles and PDAs. Potential careers include: • Researcher • Technology Manufacturer • IT and Digital Consultant • Embedded Systems Consultant	Professional work involving large-scale software development across a range of sectors including IT, Finance, Energy, Healthcare and more. Potential careers include: • Application Developer • Web Developer • Systems Developer • Technical Team Leader • Software Architect	Specialists in Computer Science are increasingly sought-after across many different industries from finance to consulting, government to healthcare. Potential careers include: • Cybersecurity Analyst • Information Systems • Database • Systems • Games Developer PhD opportunities	Specialists in Computer Science are increasingly sought-after across many different industries from finance to consulting, government to healthcare. Potential careers include: • Cybersecurity Consultant • Information • Systems Manager • Database Administrator • Data Scientist • Data Engineer • Systems Analyst