UNIVERSITY OF CANBERRA

Bachelor of Software Engineering (560AA.8)

Please note these are the 2025 details for this course

Domestic students

Selection rank	60
	Note:
	The selection rank is the minimum ATAR plus adjustment factors required for admission to the program in the previous year. This is an indicative guide only as ranks change each year depending on demand.
Delivery mode	On campus
Location	Bruce, Canberra
Duration	3.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
UAC code	366103
English language requirements	An IELTS Academic score of 6.0 overall, with no band score below 6.0 (or equivalent).
	View IELTS equivalences

International students

Academic entry requirements	To study at UC, you'll need to meet our academic entry requirements and any admission requirements specific to your course. Please read your course admission requirements below. To find out whether you meet UC's academic entry requirements, visit our academic entry requirements page.

Delivery mode	On campus
Location	Bruce, Canberra
Duration	3.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
CRICOS code	054017M
English language requirements	An IELTS Academic score of 6.0 overall, with no band score below 6.0 (or equivalent). View IELTS equivalences

About this course

Secure yourself a future in software engineering.

If the idea of working as a highly qualified and in-demand software engineer is your goal, then UC's Bachelor of Software Engineering is your key to developing the skills needed to open industry doors and progress naturally into a dynamic career.

This course has been designed to develop and strengthen your communication skills and teach you how to critically analyse and construct systems to gain a clear and holistic understanding of the software engineering spectrum.

As part of your studies, you will become proficient in a range of areas including design, coding and software specification which will give you a solid foundation in computer science, and give you the necessary skills to be able to develop your own cutting-edge creations.

With the ability to tailor your course to focus on a range of areas, including robotics and AI, computer security, network computing, games development, digital forensics and intelligent systems, this course offers the perfect platform to explore and discover the career pathway that best suits your personal and professional objectives.

This course is accredited by the Australian Computer Society and has been designed to impart you with the skills, knowledge, and confidence to work as a qualified IT professional, in whichever area of the industry you choose to explore.

This course offers the chance to specialise in Cloud Computing and Internet of Things, Cybersecurity, Artificial Intelligence and Robotics

and Data Science.

Study a Bachelor of Software Engineering at UC and you will:

- Discover how to read, interpret, design and write code.
- Learn how to analyse and critique complex, large-scale software systems.
- Gain high-level awareness of professional ethics, responsibilities, values and standards.
- Achieve a comprehensive insight into engineering aspects of computer science.
- Study the current programming languages at an intensive level.
- Understand the methodology of software systems engineering using analysis and specification methods such as UML, XML, and structured and soft systems methodologies.
- Learn to design and build systems and software using specialist engineering tools.
- Work within modern development environments that include Windows, Linux, mobile and cloud computing.
- Earn a globally recognised degree.

Work Integrated Learning (WIL)

Work-integrated learning (WIL) is an integral component of the UC Bachelor of Software Engineering course as it offers students the opportunity to gain valuable hands-on experience and build professional relationships through real work, or work-like placements.

To help encourage on the job learning, UC works hard to foster close industry connections with professional organisations - and as a result can offer unrivalled access to industry partners with the both the knowledge and resources to provide top level work placement positions and training opportunities.

Previous internships have taken placement at professional organisations such as: Intelledox, Omni Executive, Pursuit Technology, Qirx, Fujitsu Australia, Birdsnest, Agsafe, ThoughtPatterns Consulting, ESKAPEE, HydroAlgorithmics, ALLBIDS, VerveEd.com, Emanate Technology, Xero Australia and the Australian Taxation Office.

In your final year, you will also get to complete a real-world industry capstone project, working in teams producing and implementing a real-world software solution for a local business, government or community organisation.

Career opportunities

The UC Bachelor of Software of Engineering is an industry-respected and globally recognised degree. UC's unique connections within the industry means that students can establish strong professional relationships before they graduate. This enables students to stand out from the competition and have a higher chance of successfully transitioning into any of the following careers:

- Software engineer
- Cloud computing architect
- Software and games developer
- ICT project manager
- ICT security specialist
- IoT engineer, developer or designer
- Cybersecurity specialist
- Service desk manager

- System administrator
- Cybersecurity operations manager
- Big data engineer
- Big data architect
- Data scientist
- Business intelligence specialist
- Artificial intelligence engineer
- Machine learning engineer
- Robotics specialist.

Course-specific information

This course is accredited by the Australian Computer Society (ACS) at the Professional level. High-achieving students may be eligible to enroll in Honours in Information Sciences, and there are clear pathways from this course to the Master of Information Sciences (Research) and other postgraduate degrees.

Professional accreditation

This course is accredited by the professional body, the Australian Computer Society, at the Professional level.

Admission requirements

Admission to this course is based on an entrance rank. A rank can be achieved by the following means:

- Year 12 ATAR

- other Australian Qualification

- work experience

- overseas qualification

We also offer a number of entry initiatives that give you the opportunity to gain entry to the University via alternate pathway programs and admissions schemes.

More information is available on our Alternative Entry page: http://www.canberra.edu.au/future-students/applications/apply-now/alternative-entry

Assumed knowledge

Basic knowledge and skills in ICT (Information and Communication Technology); Basic numeracy and literacy skills.

Periods course is open for new admissions

Year	Location	Teaching period	Teaching start date	Domestic	International
2025	Bruce, Canberra	Semester 1	03 February 2025	✓	✓

2025	Bruce, Canberra	Winter Term	26 May 2025	✓	
2025	Bruce, Canberra	Semester 2	28 July 2025	✓	✓
2026	Bruce, Canberra	Semester 1	16 February 2026	✓	✓
2026	Bruce, Canberra	Winter Term	08 June 2026	✓	
2026	Bruce, Canberra	Semester 2	10 August 2026	✓	✓
2027	Bruce, Canberra	Semester 1	15 February 2027	✓	✓
2027	Bruce, Canberra	Winter Term	07 June 2027	✓	
2027	Bruce, Canberra	Semester 2	09 August 2027	✓	✓

Credit arrangements

A credit transfer arrangement is available for this course for the following institutions:

Defence Registered Training Organisation

Diploma of Business (33230)

Hunan University

Study in Engineering Program (34027)

Melbourne College Of Advanced Studies

Bachelor Qualifying Program (BQP) Business Course (Completion of one semester's study) (31827)

Bachelor Qualifying Program (BQP) Business Course (Completion of two semester's study) (31864)

Bachelor Qualifying Program (BQP) Engineering Course (Completion of one semester's study) (31905)

Bachelor Qualifying Program (BQP) Engineering Course (Completion of two semesters's study) (31964)

Bachelor Qualifying Program (BQP) Science-IT Course (completion of one semester's study) (32005)

Bachelor Qualifying program (BQP) Science-IT Course (completion of two semester's study) (32026)

Other Australian Tafe

Any Australian Diploma (AQF5) (33826)

University Of Canberra College

Diploma of Information Technology (31744)

Course requirements

Bachelor of Software Engineering (560AA) | 72 credit points

Required - Must pass 48 credit points as follows

Core Major in Information Technology and Systems (CM0018) | 24 credit points

Required - Must pass 21 credit points as follows

Introduction to Information Technology (4478) | 3 credit points — Level 1

Database Design (5915) | 3 credit points — Level 1

Professional Practice in IT (7722) | 3 credit points — Level 1

Information & Communication Technology Project (9785) | 6 credit points — Level 3

Technological Innovation and Entrepreneurship (11408) | 3 credit points — Level 2

Systems Analysis and Modelling (11486) | 3 credit points — Level 1

Restricted Choice - Must pass 3 credit points from the following

Information Systems in Organisations (6348) | 3 credit points — Level 1

Introduction to Network Engineering (11485) | 3 credit points — Level 1

Note:

- 1. Students in the 322AA BIT, 560AA BSE or ITB101 BET courses must choose 11485 Introduction to Network Engineering.
- 2. Students in the 706AA BBI course must choose 6348 Information Systems in Organisations.
- 3. Students in the 838AA BSE/BBI combined course must do both 11485 Intro to Network Engineering AND 6348 Info Systems in Organisations. The extra cps will count towards the chosen Specialist Major.

Specialist Major in Software Engineering (SM0053) | 24 credit points

Required - Must pass 24 credit points as follows

Software Technology 1 (4483) | 3 credit points — Level 1

Discrete Mathematics (6698) | 3 credit points — Level 1

Software Technology 2 (7170) | 3 credit points — Level 2

Web Design and Programming (7175) | 3 credit points — Level 2

Technology and Engineering Management (9789) | 3 credit points — Level 3

System Software (11489) | 3 credit points — Level 3

Software Systems Architecture (11491) | 3 credit points — Level 3

Mobile Technologies (11492) | 3 credit points — Level 3

Individual units may only count towards one major. Only 3 majors can be completed in this course, including core, specialist and breadth majors.

Restricted Choice - Must select 1 of the following

Option 1 - Must pass 24 credit points from the following

Specialist Major in Robotics and AI (SM0058) | 24 credit points

Required - Must pass 18 credit points as follows

Soft Computing (7168) | 3 credit points — Level 3

Engineering Mathematics (10087) | 3 credit points — Level 1

Foundations of Robotics (11370) | 3 credit points — Level 2

Computer Vision and Image Analysis (11376) | 3 credit points — Level 3

Advanced Robotics (11479) | 3 credit points — Level 3

Pattern Recognition and Machine Learning (11482) | 3 credit points — Level 3

Restricted Choice - Must pass 6 credit points from the following

- any units offered by the School of Information Technology & Systems, with at least 3 credit points at Advanced (3) level, including the following units:

Software Technology 2 (7170) | 3 credit points — Level 2

Information Sciences Internship (7899) | 3 credit points — Level 3

Information Sciences Internship (Extended) (10152) | 3 credit points — Level 3

Advances in Information Sciences and Engineering (11480) | 3 credit points — Level 3

Note:

- Restricted Choice units should be chosen to either meet the prerequisites of the units in the Major or to complement Major units for a better learning outcome.

Specialist Major in Cybersecurity and System Administration (SM0056) | 24 credit points

Required - Must pass 9 credit points as follows

Introduction to Digital Forensics (9074) | 3 credit points — Level 2

Network Architecture (11484) | 3 credit points — Level 3

System and Network Administration (11514) | 3 credit points — Level 3

Restricted Choice - 15 credit points as follows

Part A - Must pass 3 credit points from the following

Software Technology 1 (4483) | 3 credit points — Level 1

Contemporary IT & E Issues (9788) | 3 credit points — Level 3

Information Security (11759) | 3 credit points — Level 3

Note:

- 1. Students in the 706AA BBI course must choose 4483 Software Technology 1.
- 2. Students in the 322AA BIT or 838AA BSE/BBI courses must choose 9788 Contemporary IT & E Issues.
- 3. Students in the 560AA BSE course must choose 11759 Information Security (or previous unit code 11487).

Part B - Must pass 3 credit points from the following

- Any unit from the School of Information Technology & Systems.

Introduction to Network Engineering (11485) | 3 credit points — Level 1

Note:

- 1. Students in the 706AA BBI or 838AA BSE/BBI courses must choose 11485 Introduction to Network Engineering.

Part C - Must pass 3 credit points from the following

- Any Undergraduate Level 3 unit from the School of Information Technology & Systems.

Part D - Must pass 3 credit points from the following

Computer and Network Security (8019) | 3 credit points — Level 3

Advanced Cyber Security (11907) | 3 credit points — Level 3

Note:

- From Semester 2 2023, 11907 Advanced Cyber Security replaces 8019 Computer and Network Security

Part E - Must pass 3 credit points from the following

Security and Support in IT (11488) | 3 credit points — Level 1

Introduction to Cyber Security (11906) | 3 credit points — Level 1

Note:

- From Semester 2 2023, 11906 Introduction to Cyber Security replaces 11488 Security and Support in IT

Specialist Major in Data Science (SM0057) | 24 credit points

Required - Must pass 15 credit points as follows

Introduction to Statistics (6540) | 3 credit points — Level 1

Data Analytics and Business Intelligence (8696) | 3 credit points — Level 3

Introduction to Data Science (11372) | 3 credit points — Level 3

Exploratory Data Analysis and Visualisation (11374) | 3 credit points — Level 3

Pattern Recognition and Machine Learning (11482) | 3 credit points — Level 3

Restricted Choice - Must pass 9 credit points from the following

- any units offered by the School of Information Technology & Systems, with at least 3 credit points at Advanced (3) level, including the following units:

Information Sciences Internship (7899) | 3 credit points — Level 3

Information Sciences Internship (Extended) (10152) | 3 credit points — Level 3

AR/VR for Data Analysis and Communication (11464) | 3 credit points — Level 3

Advances in Information Sciences and Engineering (11480) | 3 credit points — Level 3

Note:

- Restricted Choice units should be chosen to either meet the prerequisites of the units in the Major or to complement Major units for a better learning outcome.

Specialist Major in Cloud Computing and IoT (SM0055) | 24 credit points

Required - Must pass 15 credit points as follows

Contemporary IT & E Issues (9788) | 3 credit points — Level 3

Cloud Computing Architecture (11368) | 3 credit points — Level 3

Foundations of Robotics (11370) | 3 credit points — Level 2

Internet of Things (11511) | 3 credit points — Level 3

Introduction to Cyber Security (11906) | 3 credit points — Level 1

Restricted Choice - Must pass 9 credit points from the following

Part A - Must pass 3 credit points from the following

- Any unit from the School of ITS

Enterprise and Cloud Computing (9281) | 3 credit points — Level 3

Note:

- Students in 322A BIT can choose any unit from the School of ITS
- Students in 706AA BBI, 560AA BSE, or 838AA BSE/BBI must choose 9281 Enterprise and Cloud Computing

Part B - Must pass 3 credit points from the following

- Any unit from the School of ITS

Introduction to Network Engineering (11485) | 3 credit points — Level 1

Note:

- Students in 322A BIT or 706AA BSE can choose any unit from the School of ITS
- Students in 706AA BBI or 838AA BSE/BBI must choose 11485 Introduction to Network Engineering

Part C - Must pass 3 credit points as follows

- Any Undergraduate Level 3 unit from the School of ITS

Law, Innovation and Technologies (11271) | 3 credit points — Level 3

Note:

- For this Major only, students may also choose unit 11271 Law, Innovation & Technologies (offered by Faculty of Business, Government & Law) for this restricted choice unit.

Option 2 - 24 credit points as follows

- Must pass 24 credit points from anywhere in the University as a breadth major, a breadth minor and/or as individual units.

In addition to course requirements, in order to successfully complete your course you must meet the inherent requirements. Please refer to the inherent requirements statement applicable to your course

Typical study pattern
UC - Canberra, Bruce

Standard Full Time, Semester 1 Commencing

Year 1

Semester 1

Database Design (5915)

Introduction to Information Technology (4478)

Professional Practice in IT (7722)

Software Technology 1 (4483)

Semester 2

Discrete Mathematics (6698)

Introduction to Network Engineering (11485)

Systems Analysis and Modelling (11486)

Technological Innovation and Entrepreneurship (11408)

Year 2

Semester 1

Mobile Technologies (11492)

Software Technology 2 (7170)

Two Restricted Choice units

Semester 2

Software Systems Architecture (11491)

Two Restricted Choice units

Web Design and Programming (7175)

Year 3

Semester 1

System Software (11489)

Technology and Engineering Management (9789)

Two Restricted Choice units

Semester 2

Information & Communication Technology Project (9785)

Two Restricted Choice units

Standard Full Time, Semester 2 Commencing

Year 1

Semester 2

Database Design (5915)

Introduction to Information Technology (4478)

Introduction to Network Engineering (11485)

Professional Practice in IT (7722)

Professional Practice in IT (7722)

Software Technology 1 (4483)

Systems Analysis and Modelling (11486)

Web Design and Programming (7175)

Year 2

Semester 1

Database Design (5915)

Discrete Mathematics (6698)

Introduction to Network Engineering (11485)

Mobile Technologies (11492)

Systems Analysis and Modelling (11486)

Technological Innovation and Entrepreneurship (11408)

Technological Innovation and Entrepreneurship (11408)

One Open Elective Unit

Semester 2

Software Systems Architecture (11491)

Three Restricted Choice units

Two Open Elective Units

System Software (11489)

Web Design and Programming (7175)

Year 3

Semester 1

Restricted Choice unit

Information & Communication Technology Project (9785)

Mobile Technologies (11492)

Software Technology 2 (7170)

Software Technology 2 (7170)

Technology and Engineering Management (9789)

Technology and Engineering Management (9789)

Semester 2

Three Restricted Choice units

Software Systems Architecture (11491)

Year 4

Semester 1

Information & Communication Technology Project (9785)

Restricted Choice unit

System Software (11489)

Course information

Course duration

Standard 3 years full time or part-time equivalent. Maximum 10 years from date of enrolment to date of course completion.

Learning outcomes

Learning outcomes	Related graduate attributes
Explain and practice ICT profession, including professional ethics, professional expectations, team work skills, communication skills, societal issues,	UC graduates are professional: Employ up-to-date and relevant knowledge and skills; communicate effectively; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their

legal issues, and privacy issues etc.	organisational skills to plan and manage their workload; and take pride in their professional and personal integrity. UC graduates are global citizens: Think globally about issues in their profession; understand issues in their profession from the perspective of other cultures; communicate effectively in diverse cultural and social settings; make creative use of technology in their learning and professional lives; and behave ethically and sustainably in their professional and personal lives. UC graduates are lifelong learners: Be self-aware; and adapt to complexity, ambiguity and change by being flexible and keen to engage with new ideas.
Formulate, appraise, and implement ICT solutions under the context of social and economic constraints, legal and ethical issues, risk and benefit balance, technology availability and stakeholders' acceptance, and the professional standards of the industry etc.	UC graduates are professional: Employ up-to-date and relevant knowledge and skills; communicate effectively; use creativity, critical thinking, analysis and research skills to solve theoretical and real-world problems; display initiative and drive, and use their organisational skills to plan and manage their workload; and take pride in their professional and personal integrity. UC graduates are global citizens: Think globally about issues in their profession; adopt an informed and balanced approach across professional and international boundaries; understand issues in their profession from the perspective of other cultures; communicate effectively in diverse cultural and social settings; make creative use of technology in their learning and professional lives; and behave ethically and sustainably in their professional and personal lives. UC graduates are lifelong learners: Reflect on their own practice, updating and adapting their knowledge and skills for continual professional and academic development; be self-aware; adapt to complexity, ambiguity and change by being flexible and keen to engage with new ideas; and evaluate and adopt new technology.
Demonstrate a good command of in-depth ICT Knowledge (information and communication technology) prescribed in ACS CBOK (Australian Computer Society, Core Body of Knowledge), with a focus on Technology Building, ranging from the business side to the technical side of ICT.	UC graduates are professional: Work collaboratively as part of a team, negotiate, and resolve conflict; and take pride in their professional and personal integrity.

Apply a broad and coherent knowledge of computer science and software engineering in diverse contexts and domains using critical thinking and judgment.	UC graduates are professional: Employ up-to-date and relevant knowledge and skills; communicate effectively; use creativity, critical thinking, analysis and research skills to solve theoretical and real-world problems; and display initiative and drive, and use their organisational skills to plan and manage their workload.

UC graduates are global citizens: Think globally about issues in their profession; adopt an informed and balanced approach across professional and international boundaries; make creative use of technology in their learning and professional lives; and behave ethically and sustainably in their professional and personal lives.

UC graduates are lifelong learners: Reflect on their own practice, updating and adapting their knowledge and skills for continual professional and academic development; adapt to complexity, ambiguity and change by being flexible and keen to engage with new ideas; and evaluate and adopt new technology. |
| Propose, formulate and invent appropriate strategies and contemporary tools to the scoping, analysis, design, construction, verification and operation of software systems. | UC graduates are professional: Employ up-to-date and relevant knowledge and skills; use creativity, critical thinking, analysis and research skills to solve theoretical and real-world problems; work collaboratively as part of a team, negotiate, and resolve conflict; and display initiative and drive, and use their organisational skills to plan and manage their workload.

UC graduates are global citizens: Think globally about issues in their profession; adopt an informed and balanced approach across professional and international boundaries; and make creative use of technology in their learning and professional lives.

UC graduates are lifelong learners: Reflect on their own practice, updating and adapting their knowledge and skills for continual professional and academic development; adapt to complexity, ambiguity and change by being flexible and keen to engage with new ideas; and evaluate and adopt new technology. |

Majors

- Core Major in Information Technology and Systems (CM0018)
- Specialist Major in Software Engineering (SM0053)
- Specialist Major in Cybersecurity and System Administration (SM0056)

- Specialist Major in Data Science (SM0057)
- Specialist Major in Cloud Computing and IoT (SM0055)
- Specialist Major in Robotics and AI (SM0058)

Awards

Award	Official abbreviation
Bachelor of Software Engineering	BSE

Honours

Students may be eligible to enroll in a one-year honours program after completion of their Bachelor of Software Engineering degree, based on their GPA, within ITS program in the Faculty of Science and Technology.

Enquiries

Student category	Contact details
Current and Commencing Students	Please contact the University Student Centre by Email student.centre@canberra.edu.au or Phone 1300 301 727
Prospective International Students	E international@canberra.edu.au P +61 2 6201 5342 F +61 2 6201 5040 W www.canberra.edu.au/future-students
Prospective Domestic Students	E study@canberra.edu.au P 1800 UNI CAN (1800 864 226) W www.canberra.edu.au/future-students

Download your course guide

Scholarships

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