UNIVERSITY OF CANBERRA

Bachelor of Engineering (Honours) (ETB001.3)

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	4.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
UAC code	365016
English language requirements	An IELTS Academic score of 6.5 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	4.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
CRICOS code	099434M
English language requirements	An IELTS Academic score of 6.5 overall, with no band score below 6.0 (or equivalent). View IELTS equivalences

About this course

Engineer the future to solve the unimaginable

Draw on your love for critical thinking and become an innovative problem solver for a brighter tomorrow with UC's highly respected Bachelor of Engineering (Honours). Over four years, you'll gain knowledge, skills and experience and specialise in Intelligent Robotics or Network Engineering.

- Intelligent Robotics – Build your expertise in the exciting world of robotics and smart machines. You'll gain a comprehensive understanding of the control and dynamics of machines, industrial robotics, algorithms, smart engineering and more.
- Network Engineering – gain in-depth knowledge and skills in designing, developing and operating software-based networked systems, including mobile and wireless data communications networks, network security applications and services relating to cloud computing, big data and multimedia networks.

Study a Bachelor of Engineering (Honours) at UC and you will:

- gain the knowledge and skills that are highly desirable within a future-proof industry
- work with the latest computer-aided software
- learn how to design systems from the ground up
- become proficient in engineering research, design and management
- participate in numerous Work Integrated Learning (WIL) opportunities and share your own ideas during site visits and

fieldwork

- learn professional ideologies such as professional ethics, expectations and teamwork
- choose to specialise in either Intelligent Robotics or Network Engineering
- be able to participate in the Engineers without Borders Challenge
- gain unrivalled access to industry and government stakeholders and build extensive professional networks
- earn a globally recognised and in-demand qualification

Work Integrated Learning (WIL)

WIL is an integral component of the Bachelor of Engineering (Honours) course, offering students the opportunity to gain valuable hands-on experience and build professional relationships through real work, or work-like placements.

Students will also be invited to participate in the Engineers without Borders Challenge, a humanitarian-focused activity offered to engineering students across Australia.

To ensure our students have access to the right people and places, UC works hard to foster close industry connections and regularly engages with industry partners who possess both the skills and experience to provide specialised knowledge and training opportunities.

All course content is reviewed annually by our Course Advisory Group, which comprises a panel of highly qualified and respected industry experts.

Career opportunities

Whether you're pursuing a career in Intelligent Robotics, or wish to specialise in Network Engineering, The UC Bachelor of Engineering (Honours) offers a natural progression into any one of the following careers:

- Cyber Security Engineer
- Network Architect
- Chief Technology Officer
- Artificial Intelligence Engineer
- Robotics Engineer
- Data Scientist
- Business Intelligence Analyst
- Data Analyst
- Software Engineer
- Network Engineer
- ICT Manager

Professional accreditation

This course is accredited with Engineers Australia at Professional Engineer level and with the Australian Computer Society at 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

Additional admission requirements

Year 12 Mathematical Methods (T) or equivalent.

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	Semester 2	28 July 2025	✓	✓
2026	Bruce, Canberra	Semester 1	16 February 2026	✓	✓
2026	Bruce, Canberra	Semester 2	10 August 2026	✓	✓
2027	Bruce, Canberra	Semester 1	15 February 2027	✓	✓
2027	Bruce, Canberra	Semester 2	09 August 2027	✓	✓

Credit arrangements

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

Melbourne College Of Advanced Studies

University Of Canberra College

Course requirements

Bachelor of Engineering (Honours) (ETB001) | 96 credit points

Required - 57 credit points as follows

Expand All | Collapse All

Core Major in Engineering (57cp) (CM0032) | 57 credit points

Required - Must pass 57 credit points as follows

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

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

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

Introduction to Computer Engineering (8223) | 3 credit points — Level 1

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

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

ICT and Engineering Research Methods (9826) | 3 credit points — Level 4

Engineering Project (Part A) (10004) | 6 credit points — Level 4

Engineering Project (Part B) (10005) | 6 credit points — Level 4

Engineering Work Experience (0cp) (10006) | 0 credit points — Level 4

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

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

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

Professional Practice in Engineering (11519) | 3 credit points — Level 1

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

Electrical and Electronic Engineering Fundamentals (12064) | 3 credit points — Level 2

Digital Signal Processing (12065) | 3 credit points — Level 3

Restricted Choice - Must select 1 of the following

Specialist Major in Intelligent Robotics (SM0091) | 33 credit points

Required - Must pass 33 credit points from the following

Designing Human-Computer Interaction (6389) | 3 credit points — Level 2

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

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

Foundations of Robotics (12056) | 3 credit points — Level 1

Robot Design (12057) | 3 credit points — Level 2

Robot Dynamics (12058) | 3 credit points — Level 2

Industrial Robots and Systems (12059) | 3 credit points — Level 2

Human-Robot Interaction (12060) | 3 credit points — Level 3

Control Systems (12061) | 3 credit points — Level 3

Algorithmic Robotics (12062) | 3 credit points — Level 3

Advanced Intelligent Robotics (12063) | 3 credit points — Level 4

Specialist Major in Network Engineering (SM0087) | 33 credit points

Required - Must pass 33 credit points as follows

Wireless Networks (8227) | 3 credit points — Level 2

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

High Speed Networks (9783) | 3 credit points — Level 4

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

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

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

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

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

Advanced Network Engineering (12066) | 3 credit points — Level 2

Software Defined Networking (12067) | 3 credit points — Level 3

Communication Theory (12068) | 3 credit points — Level 1

- The course award is determined by the selected specialist major. E.g. Completing the Intelligent Robotics major leads to the Bachelor of Engineering (Honours) in Intelligent Robotics.

Open Electives - Must pass 6 credit points as follows

- - Must pass 6 credit points from anywhere in the University.

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 with Intelligent Robotics Specialisation

Year 1

Semester 1

Discrete Mathematics (6698)

Foundations of Robotics (12056)

Introduction to Information Technology (4478)

Introduction to Network Engineering (11485)

Semester 2

Engineering Mathematics (10087)

Introduction to Computer Engineering (8223)

Professional Practice in Engineering (11519)

Software Technology 1 (4483)

Year 2

Semester 1

Designing Human-Computer Interaction (6389)

Electrical and Electronic Engineering Fundamentals (12064)

Robot Design (12057)

Technological Innovation and Entrepreneurship (11408)

Semester 2

Digital Signal Processing (12065)

Industrial Robots and Systems (12059)

Pattern Recognition and Machine Learning (11482)

Robot Dynamics (12058)

Year 3

Semester 1

Algorithmic Robotics (12062)

Computer Vision and Image Analysis (11376)

Introduction to Cyber Security (11906)

Technology and Engineering Management (9789)

Semester 2

Control Systems (12061)

Human-Robot Interaction (12060)

Information & Communication Technology Project (9785)

Year 4

Semester 1

Advanced Intelligent Robotics (12063)

Engineering Project (Part A) (10004)

ICT and Engineering Research Methods (9826)

Semester 2

Engineering Project (Part B) (10005)

Engineering Work Experience (0cp) (10006)

Two Open Electives

Standard Full Time, Semester 1 Commencing with Network Engineering Specialisation

Year 1

Semester 1

Communication Theory (12068)

Discrete Mathematics (6698)

Introduction to Information Technology (4478)

Introduction to Network Engineering (11485)

Semester 2

Engineering Mathematics (10087)

Introduction to Computer Engineering (8223)

Professional Practice in Engineering (11519)

Software Technology 1 (4483)

Year 2

Semester 1

Electrical and Electronic Engineering Fundamentals (12064)

Introduction to Cyber Security (11906)

Mobile Technologies (11492)

Wireless Networks (8227)

Semester 2

Advanced Cyber Security (11907)

Advanced Network Engineering (12066)

Digital Signal Processing (12065)

Technological Innovation and Entrepreneurship (11408)

Year 3

Semester 1

Enterprise and Cloud Computing (9281)

Internet of Things (11511)

Software Defined Networking (12067)

Technology and Engineering Management (9789)

Semester 2

Information & Communication Technology Project (9785)

Network Architecture (11484)

System and Network Administration (11514)

Year 4

Semester 1

Engineering Project (Part A) (10004)

High Speed Networks (9783)

ICT and Engineering Research Methods (9826)

Semester 2

Two Open Electives

Engineering Project (Part B) (10005)

Engineering Work Experience (0cp) (10006)

Standard Full Time, Semester 2 Commencing with Intelligent Robotics Specialisation

Year 1

Semester 2

Discrete Mathematics (6698)

Introduction to Computer Engineering (8223)

Professional Practice in Engineering (11519)

Software Technology 1 (4483)

Year 2

Semester 1

Engineering Mathematics (10087)

Foundations of Robotics (12056)

Introduction to Information Technology (4478)

Introduction to Network Engineering (11485)

Semester 2

Digital Signal Processing (12065)

Industrial Robots and Systems (12059)

Pattern Recognition and Machine Learning (11482)

Technological Innovation and Entrepreneurship (11408)

Year 3

Semester 1

Designing Human-Computer Interaction (6389)

Open Elective

Electrical and Electronic Engineering Fundamentals (12064)

Robot Design (12057)

Semester 2

Human-Robot Interaction (12060)

Information & Communication Technology Project (9785)

Robot Dynamics (12058)

Year 4

Semester 1

Algorithmic Robotics (12062)

Computer Vision and Image Analysis (11376)

Introduction to Cyber Security (11906)

Technology and Engineering Management (9789)

Semester 2

Control Systems (12061)

Engineering Project (Part A) (10004)

ICT and Engineering Research Methods (9826)

Year 5

Semester 1

Engineering Project (Part B) (10005)

Open Elective

Advanced Intelligent Robotics (12063)

Engineering Work Experience (0cp) (10006)

Course information

Course duration

Standard 4 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
Effectively communicate complex engineering concepts, problems, and solutions, to technical and non-technical audiences.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their organisational skills to plan and manage their workload; 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; 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; evaluate and adopt new technology.

UC graduates are able to demonstrate Aboriginal and Torres Strait Islander ways of knowing, being and doing: Use local Indigenous histories and traditional ecological knowledge to develop and augment understanding of their discipline.

Synthesise and apply broad, coherent, and advanced discipline-specific knowledge to a range of contemporary, real-world engineering scenarios, challenges, and problems.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their organisational skills to plan and manage their workload; take pride in their professional and personal integrity.

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UC graduates are able to demonstrate Aboriginal and Torres Strait Islander ways of knowing, being and doing: Use local Indigenous histories and traditional ecological knowledge to develop and augment understanding of their discipline.

Demonstrate a sophisticated understanding of the importance of professional standards, ethics, and continuing professional development to the engineering profession.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their

	organisational skills to plan and manage their workload; 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; 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; evaluate and adopt new technology.
Apply advanced technical skills and scientific methods to key engineering capabilities and practices, including risk identification and management, design metrics, simulations, modelling, and safety.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their organisational skills to plan and manage their workload; 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; 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; evaluate and adopt new technology.
Employ in-depth critical thinking, cognitive skills, and creative methods to identify, evaluate, analyse, and solve complex engineering problems.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their organisational skills to plan and manage their workload; 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; 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; evaluate and adopt new technology.
Plan and conduct a research project within an engineering specialisation, using appropriate research methodologies.	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; work collaboratively as part of a team, negotiate, and resolve conflict; display initiative and drive, and use their organisational skills to plan and manage their workload; 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; 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; evaluate and adopt new technology.

Placements requirements

450 hours of practical work experience, which can be reduced by participation in CPD, professional practice units and other practical experiences in alignment with Engineers Australia requirements.

Majors

- Specialist Major in Intelligent Robotics (SM0091)

- [Core Major in Engineering (57cp) (CM0032)](#)
- [Specialist Major in Network Engineering (SM0087)](#)

Awards

Award	Official abbreviation
Bachelor of Engineering (Honours) in Network Engineering	BE (Hons) NetworkEng
Bachelor of Engineering (Honours) in Intelligent Robotics	BE (Hons) IntelligentRobotics

Honours

The Bachelor of Engineering in Network and Software Engineering (Honours) is an Honours degree. The Honours merit calculation will be based on the Honours Grade Point Average (Honours GPA) defined as the GPA in the required UG Level 3 and Level 4 units of the course and other conditions:

- First Class: Honours GPA >6, and High Distinction in Engineering Project (Part A) and Engineering Project (Part B);
- Second Class Division I: Honours GPA >5.25, and Distinction in Engineering Project (Part A) and Engineering Project (Part B);
- Second Class Division II: Honours GPA >4.5, and Credit in Engineering Project (Part A) and Engineering Project (Part B).
- The rest of students who pass the course take out honours without a class.

Enquiries

Student category	Contact details
Prospective Domestic Students	Email study@canberra.edu.au or Phone 1800 UNI CAN (1800 864 226)
Prospective International Students	Email international@canberra.edu.au or Phone +61 2 6201 5342
Current and Commencing Students	In person, Student Centre Building 1 or Email Student.Centre@canberra.edu.au

Download your course guide

Scholarships

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