

INTERNATIONAL STUDENT GUIDE



ANU College of Engineering, Computing & Cybernetics

DISCOVER THE DIFFERENCE YOU CAN MAKE

Australian National University (ANU) is driven by a culture of excellence in everything we do. ANU leads in Australia for the best student-to-staff ratio¹ and ranks first in the country for graduate employability².

"There's just one thing we ask of our students, that one day you will change the world. We will give you the tools, skills and the ability to go out and make those changes," Professor Tony Hosking, Director ANU School of Computing.

The ANU College of Engineering, Computing and Cybernetics (CECC) implements our disciplines through education and research, necessary to help us design, build, regulate and secure the future.

CECC brings together expertise in social, technical, computational, ecological and scientific systems to build a new approach to systems design and build new national capabilities. Our researchers and academics are solving the world's most complex challenges. You will be inspired to become a problem finder and solver, comfortable with complexity as it applies to Engineering, Computing, and Cybernetics.

- 1. THE World University Rankings 2024
- THE Global University Employability Rankings 2023-2024

Acknowledge of Country

The Australian National University acknowledges, celebrates and pays our respects to the Ngunnawal and Ngambri people of the Canberra region and to all First Nations Australians on whose traditional lands we meet and work, and whose cultures are among the oldest continuing cultures in human history.



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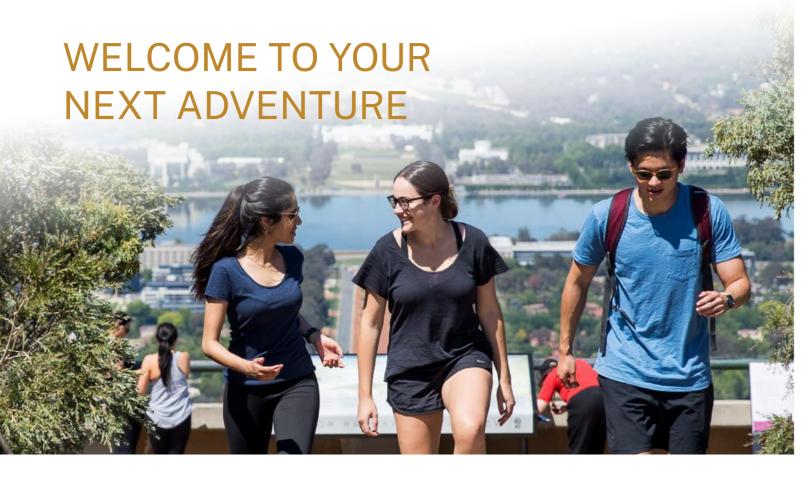
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Australia offers incredible natural landscapes and city experiences—and the national capital is no exception. Whether it's kangaroos and koalas, rivers and mountains you're wanting to experience or great food, culture and a chilled city vibe, Canberra has it all.

Say "g'day" to Australia's capital

Canberra is a young, vibrant city with a global reputation for excellence in education and research. We attract the best and brightest minds through a culture of life-long learning. Our city values education with more than half of Canberra's population holding a bachelor's degree or higher.

At ANU you will be located at the heart of the city. With guaranteed on campus accommodation for International students, you will be close to everything. With the city centre within walking distance, you will have access to shops, work opportunities and Canberra's public transport networking including our new bright red trams!

Photo by VisitCanberra

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It is my hope that if you join ANU, it will become your home away from home – as it has been for so many people, including me. At the end of your degree, I know you will emerge as the best version of yourself: an extraordinary subject matter expert, an extraordinary citizen of the world, and an extraordinary human being.

I look forward to welcoming you.

Genevieve Bell
Vice-Chancellor and President

Bell ellor and President



Photo by ACT Government



Photo by Erna Glassford

£1

Highest average income and lowest unemployment in Australia

(Why Study in Canberra 2022)

#1

Most sustainable city in Australia

(The World's Most Sustainable Cities 2021)

25%

of Canberrans speak a language other than English (Multicultural Canberra 2022)

Get Active

Canberra is well known for its natural beauty as the 'Bush Capital'. All year round you can walk or ride a bike along the weaving trails dotted around local nature reserves.

There are world-class sporting facilities around Canberra as well as ANU's own extensive sporting and exercise facilities right on campus. The ANU campus and Canberra are bike friendly with over 400km of cycle paths throughout the city.

Here the sun shines even in winter! You can even see snow in Australia and head to the nearby ski resorts, just 2 hours from Canberra.

Explore Canberra

Canberra is home to a number of national museums, events and award-winning restaurants. Explore national galleries and museums, our science centre or even the NASA Deep Space Tracking Station just minutes from the edge of Canberra.

Canberra has many festivals across all seasons. In summer enjoy the illuminating

Enlightened light show across
Australias national art and history museums. Watch the
Balloon Spectacular float across Lake Burley Griffin or the fantastic fireworks of Skyfire. In spring, wander through the tulips at Floriade or enjoy a movie under the stars at the
National Botanic Gardens.

Food, drink and shopping

Canberra is a hub for excellent food and drinks. With awardwinning restaurants, fresh food markets and a number of annual food festivals you will be spoilt for choice.

The annual Multicultural
Festival celebrates the
diversity of the capital with
over 300 food stalls from all
over the globe, live music and
dancing over multiple days.





2 hours to the Snowy Mountains

3 hours to Sydney

2 hours to the beach







Photo by Mattie Gould Photo by Erna Glassford



We are honoured to be ranked as Australia's leading university by the measures that matter.

#1

Australia's most International outlook

(THE World University Rankings 2024)

Staff qualifications in Australia (Good Universities Guide 2023)

Graduate employability in Australia
(Times Higher Education 2023)

Lowest Student-to-Staff ratio in Australia

(Good Universities Guide 2023)

WHY ANU IS FOR YOU

1

Learn in new and exciting ways

Our leading academics encourage you to channel your creativity, critical thinking and problem solving. ANU encourages open communication and collaboration between students, lecturers and tutors. Through our practical and hands-on courses you will learn to think differently and tackle problems in innovative ways.

2

Career focused learning

Our teaching focuses on providing real-world and career focused ideas and experiences throughout your studies. There are opportunities for internships, professional placements as well as courses like Capstone or Techlauncher where final year students design their own solutions for real-world applications.

3

World-class facilities

At CECC we believe the best learning is done by doing. Design, print and experiment in our Rapid Prototyping Facilities. You will have access to world-class equipment and resources to help you through your studies. ANU is also home to the most powerful supercomputer in the Southern Hemisphere, a high-flux solar simulator, and the 'Big Dish' solar concentrator.

4

We're the #1 most international university in Australia¹

With students from all over the globe living and studying on campus, you'll feel welcome here. At ANU you will have access to a range of resources, student groups and services to help you build lifelong friendships and make the most of your time here.

¹Times Higher Education Rankings 2023

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Supportive community

Our students come from diverse backgrounds — and some are the first in their family to go to university. At ANU you will have access to a range of academic, wellbeing and careers resources, there are also a number of student groups and services to help you make the most of your time at university.



My experience at ANU in this diverse program has been a thrilling ride. The program has presented me with numerous chances to collaborate with people from diverse backgrounds on various projects and assignments, sharing experiences and enhancing my problem-solving abilities.

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Vaibhav Bajpai

Master of Engineering in Electrical Engineering

A CAMPUS MADE FOR YOU

Free airport service

We can collect you from Canberra Airport (30 minutes from ANU) during Orientation Week and take you to your accommodation. You will be able to register for this service after you have accepted your offer from us.

Find a space to study

Focus on your studies in the many comfortable spots dotted around campus—from the lounge and breakout zones in the Student Centre or Marie Reay Teaching Centre—to the many rooms with whiteboards and screens that make collaborating easy.

When you need to soak up some sun, take a seat on the bean bags on the Kambri lawn or on the steps of the amphitheatre overlooking Sullivan's Creek.

Stay fit and healthy

Build your physical and mental fitness at our swimming pool, two gyms and four ovals — or by booking the indoor courts and fitness spaces at the ANU Sports Centre. Like Canberra, the University is bike-friendly and has some beautiful walking trails.

Meet, eat and shop

You won't need to travel far for food and study supplies. Conveniently on the ANU campus are cafes, bars, a retro games room, bookshop, pharmacy and supermarket. Our campus provides everything from basic groceries, prescription medicines, stationery supplies and textbooks to coffee and food from around the world.

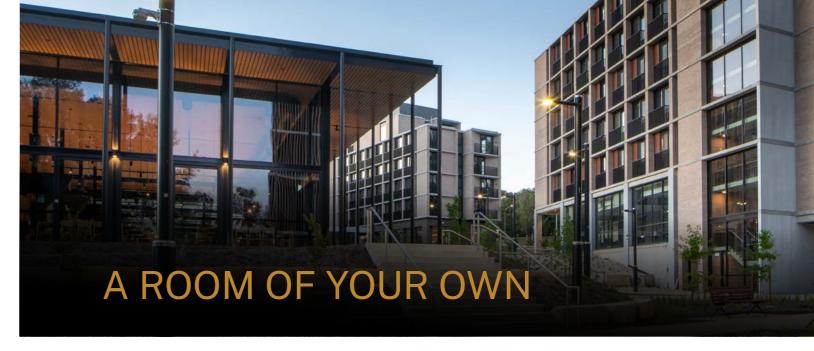
Get involved in events

At the start of every semester, during Orientation Week, Kambri-the hub of student life at ANU-really comes alive! The calendar of events includes markets, workshops, tours and competitions. Throughout the semester, you can also take part in social events, from concerts and movie nights to theatre and live music performances.

Work during your studies

With your Australian student visa, you can work part-time for up to 48 hours every two weeks during semester and unrestricted hours during study breaks. Canberra also provides many public and private sector employment opportunities for you to choose from.





ANU has a wide range of catered and self-catered student residences. The vibrant campus community is conveniently located within easy walking or cycling distance to the city center of Canberra. Living in a student residence is your chance to be at the heart of our Acton campus.

Join the community

Living on the ANU campus helps you to develop friendships and is a welcoming hub of study and social activity. Living in a secure, student residence on our campus puts your classes, libraries and all the amenities of the Kambri student hub in easy reach.

Residences are more than just a room. Students run regular events and social activities, tutoring and study sessions as well as the popular inter-residence sporting and arts competitions. There are also residence advisors who provide wellbeing support 24/7.

ANU guarantees all first-year undergraduate and postgraduate students a room in a student residence.

ANU residences provide the support and community that helps our students thrive in their studies and create life-long friendships and networks for their future careers.

Classes are just minutes away!

Just about everything you need is close to the ANU residences. Walk, bicycle or catch public transport to ANU lecture halls, cafes, bars, gyms, supermarkets and libraries. Roll out of bed and make your way to class!

What's in your residence?

ANU has a range of catered, flexi-catered and self-catered options for residences. Some are furnished single rooms with shared living, kitchen and laundry facilities, others can be private self-contained studio apartments.

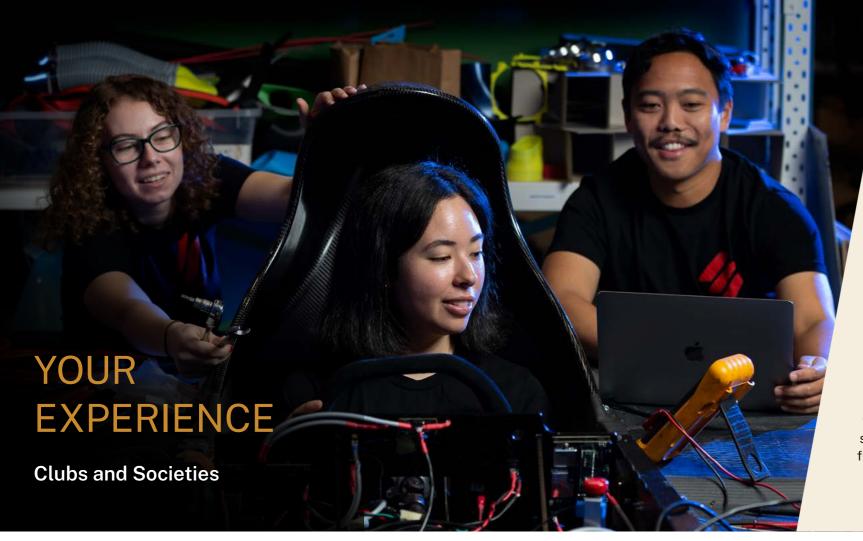
Each residence also features shared laundry and common study and leisure spaces such as music and games rooms. Many also have outdoor spaces to sit and maybe even enjoy an Australian barbecue.



Find out more
study.anu.edu.au/accommodation







ANU Solar Racing

Be a part of the worlds most watched innovation challenge. Help build ANU solar car for the Bridgestone World Solar Challenge (BWSC).

The ANU Solar Racing team are a group of passionate students dedicated to promoting sustainable innovation and renewables in our community and beyond. Their primary objective is centred around designing and constructing a solarpowered vehicle for participation in the BWSC.

This biennial competition sees teams from across the globe pushing the limits of innovation as they attempt to drive their solar-powered cars over a 3,000km stretch through the Australian desert, from Darwin to Adelaide.



ANU Women* in STEM Leadership Conference

ANU Women in STEM host a three-day conference to bring together the community at ANU. They welcome all female, femme-aligned and non-binary undergraduate students to join. They are a growing society that is committed to keeping members up to date on upcoming opportunities in STEM as well as hosting coffee catch-ups, talks and social events throughout the year.

Computer Science Students' Association

The ANU Computer Science Students' Association (CSSA) is a society for students interested in all aspects of computer science, software engineering, digital humanities and related fields!

They organise regular academic and social events, run events with industry partners, and conduct a variety of activities for the benefit of our members and the wider ANU community.



Robogals Canberra

Robogals is an international, not for profit, student-led organisation which aims to inspire, engage and empower young women to pursue careers in STEM fields. The Robogals deliver fun, engaging workshops for local and regional primary, high school and college students. As a member of Robogals you gain hands on experience with robotics with the added benefit of helping young kids discover how fun studying STEM can be.

Engineering Students Association (ESA)

The Engineering Students Association (ESA) is a non-profit student organisation run by the students, for the students. They have three key ambitions: enable a stronger sense of community among engineering students and the wider STEM community, act as an interface for course and degree-relevant guidance between old and new students, and help students connect with industry and academic personnel to help kickstart their careers.





ANU Rocketry is a student-led initiative that provides ANU students with hands-on experience in large scale engineering projects in the aerospace industry.

Their ongoing mission is to design, simulate, develop and produce high-powered rockets that will launch to 10,000ft and 30,000ft in a safe and accurate manner.

ANU Rocketry's goal is to attempt a space launch in 2025 and become the first Australian university to complete a space flight.

ANU Formula Sport

ANU Formula Sport is an interdisciplinary team driven by the goal of designing, building, and racing a formula-style car for the annual Formula Society of Automotive Engineers (FSAE) Competition.

The competition attracts a variety of both domestic and international student teams who compete in a diverse range of technical and business events filled with strategising and quick problem solving.



Engineers Without Borders

Engineers Without Borders (EWB)'s vision is to harness the potential of Engineering to create an equitable reality for the planet and its people. Through partnership and collaboration, EWB focus on developing skills, knowledge and appropriate technology solutions.

Anyone can contribute - you don't need to be an engineer – and there are plenty of ways to be involved within the ACT Chapter; from Youth Outreach programs, to regular knowledge sharing events.





ANU Fifty50

Fifty50 is a student-led organisation at ANU that strives to close the gender gap in STEM, focusing on mentoring, increasing the visibility of role models and engaging the wider ANU community in STEM gender equity. They engage all genders in promoting gender equity and run social, educational and careerfocused events, as well as a mentoring program for first year students.

Global opportunities

Enhance your ANU learning experience and take advantage of international opportunities which can be credited towards your degree. There are plenty of options available from internships, short term programs through to a full year abroad. Broaden your educational experience and kick-start your career once you graduate!



Humanitarian Engineering

Humanitarian Engineering explores the role and application of engineering and technology to disadvantaged, marginalised and vulnerable communities to improve quality of life and support empowerment. It provides a connection between engineering and development, placing human well-being at the centre of engineering practice.

The ANU School of Engineering has a number of education opportunities and partnerships with community groups, not-for-profit and social enterprises working on Humanitarian Engineering. Students obtain a deeper understanding of the ways their knowledge and skills can help to advance the well-being of humanity as a whole.



Find out more



The ANU Engineering degrees are unique in Australia, integrating engineering fundamentals with a systems engineering approach geared for the increasingly transdisciplinary, socio-technical contexts of the 21st century.

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Jessica Weakly

Bachelor of Engineering (Honours) Bachelor of International Security Studies

SCHOOL OF **ENGINEERING**

Our world rankings:

for Automation and Control (Global Ranking of Academic Subjects 2023)

#60

for Electrical and **Electronic Engineering** (QS 2024 rankings)

for Engineering and Technology (QS 2024 rankings)

The School of Engineering at ANU brings together a diverse and welcoming community, motivated to change the world.

Our work is redefining what is possible in Aerospace, Energy, Environmental, Information and Signal Processing, and Mechatronic systems. We collaborate with researchers around the world, and government at local, state and federal levels.

Our unique systems engineering focus is embedded in our educational programs. Not only do our graduates attain deep expertise in their chosen discipline, they also learn to analyse and design complex systems that are grounded in their social, environmental, and economic contexts.

Our students compete in national and international competitions including the World Solar Car Challenge, Formula SAE, Rocketry, and Maritime RobotX. We host a student chapter of Engineers Without Borders and we work closely with ANU Fifty50 in support of gender equity in STEM across ANU.

We have world-class research and teaching laboratories as well as state-of-the-art facilities, including our Rapid Prototyping and workshop facilities. These are available to students, staff, and other collaborative partners.

Studying Engineering at ANU will provide you with outstanding opportunities to both excel in your career, and to make a real difference to solving some of the world's most significant challenges.

Systems Engineering

Systems engineering, emerging from NASA, is a process for designing, constructing, and managing engineering solutions. The adaption of systems engineering taught at ANU is tailored for present-day engineering challenges, where, similar to rockets, solutions have many interconnected components. Importantly, it also allows us to consider what we now know are essential factors for engineering, such as environmental and social impacts, in addition to technical engineering considerations.

You will work in teams and in collaboration with industry partners to apply systems engineering principles across diverse areas including resilience and disaster response, agri-technology, security, energy transitions, space, and healthcare. Graduates of our systems engineering program emerge as superhero problem solvers, adept at leading diverse teams to create thoughtful and functional solutions for the betterment of the world.

Careers in Engineering

Engineering careers are diverse and in demand in Australia and overseas. At ANU, you will develop skills and abilities that are highly sought after in engineering and across many industries.

Thanks to the unique interdisciplinary approach taught in systems engineering, many of our graduates quickly progress to managerial roles. The advanced nature of our specialised and Research and Development programs ensures those looking to undertake Postgraduate research are equipped to move into academia after graduating.

Our Engineering degrees have a strong professional focus leading to roles as an Accredited Engineer in industry. Due to this, Engineering at ANU is often considered as a springboard into the wider professional world and our graduates find work in many leading organisations below as well as pursuing careers in academia and designing their own through start-ups.

- Aerospace Engineer
- Data Analyst
- Design Engineer
- Electronic Engineer
- **Electrical Engineer**
- **Environmental Engineer**
- **Energy Analyst**
- Industrial Engineer
- Nuclear Engineer

- Project or Program Manager
- · Process Engineer
- Research Consultant
- Systems Engineer
- · Senior Systems Engineer
- Software Engineer
- Telecommunications Engineer
- Engineering Manager
- Senior Engineering Consultant

















EXPLORE YOUR STUDY OPTIONS IN ENGINEERING

Entry requirements are subject to change. Please check the website before applying. English language admission requirement.





675

653



Further Mathematics (Major)/Specialist

Specialist Methods (Major), NSW: Mathematics Advanced or

Mathematics/

equivalent.)

De	Degree	Duration												Malaysia STPM	Malaysia MICSS UEC	UK A	levels	Singapore	Can	ada	Korea	Hong Kong	French Bac- calaureate	IB	India	India AISSC	USA SAT	USA ACT	China Shanghai	China Jiangsu	China Hainam	China other provinces	Vietnam	Prerequisites and assumed
	Degree	(full-time)	(best 3 subjects)	(best 5 subjects)	(best 3 subjects)	(best 4 subjects)	A levels	Ontario	British Columbia	CSAT	DSE (best 4 subjects)			ISC	(best 4 subjects)			Gao Kao	Gao Kao	Gao Kao	Gao Kao	Upper Secondary Education Graduation Diploma	knowledge											
	B. Engineering (Honours)	4 years	14	17	14	16	13	79%	3.55	346	16.5	13.2	32	87%	14.5	1210	25	479	348	653	544	8.7	Advanced Maths. (ACT: Mathematical Methods (Major)/											

17.2

13.2

19.5

1430

95%

22

16.5

376

346

3.9

3.55

Postgraduate entry requirement

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B. Engineering (Research &

Development) (Honours)

B. Engineering (Honours)

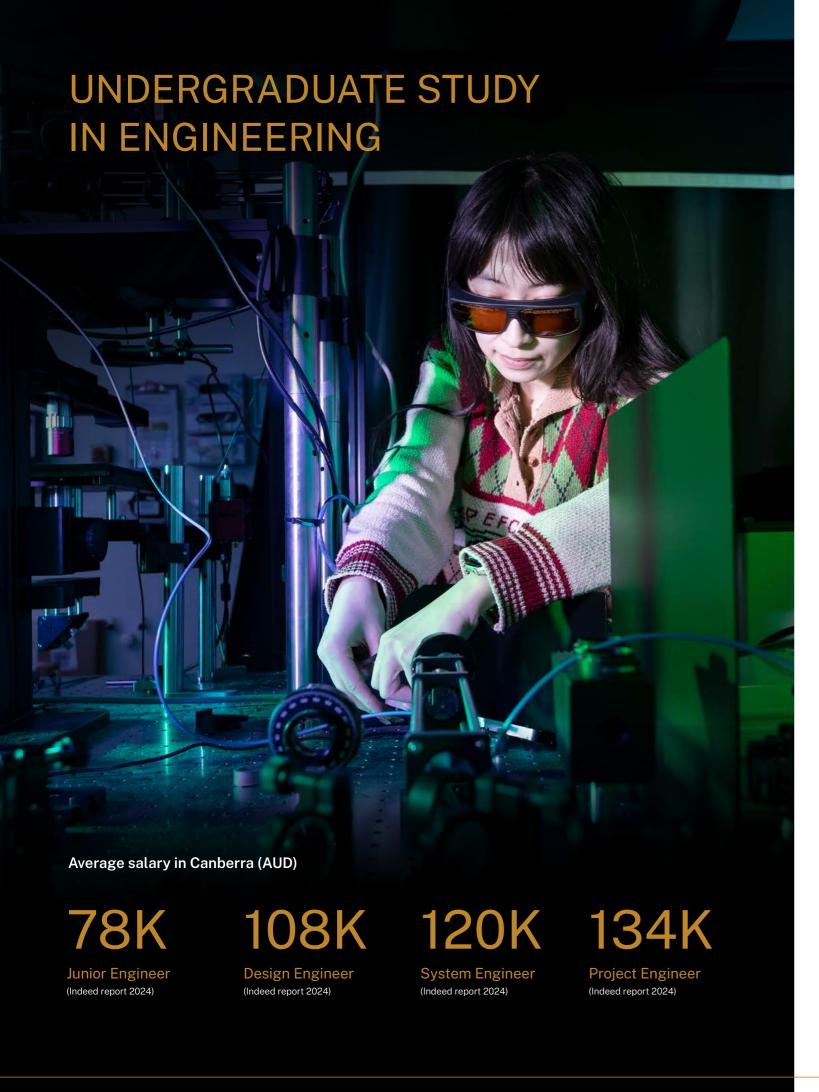
in Software Engineering

Undergraduate entry requirement

Degree	Duration (full-time)	Academic Requirement	Cognate Disciplines
M. Engineering in Electrical Engineering	2 years		Electrical and/or Electronics, Telecommunications/Communication, Power, Information Engineering, Automation, Control, Microelectronics, Internet of Things, Optical/ Optoelectronics, Photovoltaics, Biomedical Engineering
M. Engineering in Robotics, Automation and Control	2 years	A 4-year Bachelor of Engineering, Bachelor of Engineering (Honours) or international equivalent with a minimum GPA of 5.0/7.0 in a cognate discipline	Electrical and/or Electronics, Automation, Control, Intelligent Systems, Robotics, Information Engineering, Biomedical, Mechatronics, Mechanical, Manufacturing, Optoelectronics, Computer Engineering, Communications/Telecommunications
M. Engineering in Energy Systems	2 years		Electrical, Electronic, Photovoltaics, Renewable Energy Engineering, Energy, Power Engineering, Mechanical Engineering, Materials Engineering

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Bachelor of Engineering (Honours)

Selection rank: 85 | UAC: 135004 | Prerequisites: Advanced Maths | Duration: 4 years full-time | CRICOS: 077943E

Do you want to make solar energy more efficient and live in a sustainable city, or create new technologies in robotics, uncrewed aircraft and wireless internet of things? If you are creative, enjoy problem solving, teamwork and science, this could be the degree for you.

Our Bachelor of Engineering (Honours) degree boasts many unique characteristics, but best of all, it is built on a 'systems engineering' framework, where you will learn how engineering disciplines work together. Our state-of-the-art education experience ensures you will be able to design, analyse and manage the complex systems of the future.

The first two years of the program is common for all students. You will be exposed to many engineering disciplines before specialising in your chosen field. After that, you can choose to specialise in areas such as electronics & communications, mechatronics, aerospace, renewable energy, or environmental or nuclear systems. You can also combine your engineering program with another degree at ANU in a Flexible Double Degree to graduate with two qualifications.

This exceptional degree will not only allow you to excel in your career, but to also make a real difference and help to solve some of the world's largest problems.



	Year 1	Year 2	Year 3	Year 4
_	Discovering Engineering	Engineering Design 2	Engineering Design 4A	Capstone Design Project
Semester 1	Physics I	Mechanical Systems and Design	Major Course	Major Course
Se	Mathematics and Applications 1	Electronic Systems and Design	Major Course	Major Course
	Elective Course	Computer Systems & Organisation	Engineering Elective Course	Engineering Elective Course
	Introduction to Electronics	Engineering Design 3	Engineering Design 4B	Capstone Design Project
ter 2	Introduction to Mechanics	Engineering Thermodynamics	Major Course	Major Course
Semester	Mathematics and Applications 2	Signals and Systems	Engineering Elective Course	Engineering Elective Course
	Programming for Scientists	Elective Course	Elective Course	Elective Course
	Engineering Fundamentals	Systems Engineering	Engineering Majors Electives	S

Bachelor of Engineering (Research & Development) (Honours)

Selection rank: 98 | UAC: 135000 | Prerequisites: Advanced Maths | Duration: 4 years full-time | CRICOS: 060542F

Our Research & Development (R&D) program allows you to conduct individual research projects throughout your degree. Commencing in your second year, these research projects will form part of your coursework, exposing you to cutting-edge research alongside world-class academics, across many different disciplines. The projects may be undertaken within the School of Engineering, or more widely across the university. You will complete 3-4 projects over 5 semesters, learning how to undertake research, preparing you for a career

in industry. The program is also ideally suited to students thinking of undertaking a higher degree by research (PhD or MPhil).

We also offer pathways into the Research and Development program. If you commence the Bachelor of Engineering (Honours) program and achieve a High Distinction average in your first year, you may be eligible to transfer into the Research and Development program in your second year.



	1 Same	E						
	Year 1	Year 2	Year 3	Year 4				
_	Discovering Engineering	Engineering Design 2	Engineering Design 4A	Engineering Research & Development Project				
Semester 1	Physics I	Mechanical Systems and Design	Engineering Research & Development Project	Major Course				
Se	Mathematics and Applications 1	Electronic Systems and Design	Major Course	Major Course				
	Elective Course	Engineering Research & Development Project	Engineering Elective Course	Engineering Elective Course				
	Introduction to Electronics	Engineering Design 3	Engineering Design 4B	Engineering Research & Development Project				
ter 2	Introduction to Mechanics	Engineering Thermodynamics	Engineering Research & Development Project	Major Course				
Semester	Mathematics and Applications 2	Signals and Systems	Major Course	Elective Course				
	Programming for Scientists	Elective Course	Major Course	Elective Course				
	 Engineering Fundamentals 	Systems Engineering	Engineering Majors Electives	Research & Development				

Bachelor of Engineering (Honours) in Software Engineering

Selection rank: 85 | UAC: 135005 | Prerequisites: Advanced Maths | Duration: 4 years full-time | CRICOS: 108316E

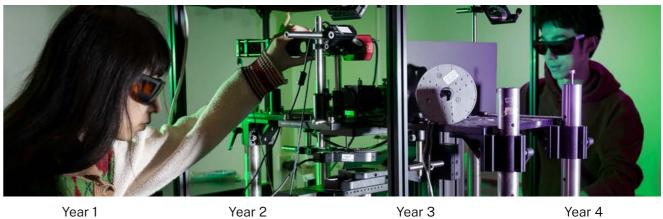
Built on a multidisciplinary systems approach, the Bachelor of Engineering (Honours) in Software Engineering will prepare you to design and build systems that influence everyday life.

The unique systems engineering approach covers both the technical aspects of professional practice, innovation, and research, as well as the complex socio-technical context of everyday applications.

You will apply your lived experience and knowledge to explore approaches ranging from uncertainty and risk, design, modern management practices, ethics, and communication.

As part of this program, you will:

- Build software systems that address complex problems faced every day in many fields including; transport, communications, finance, medicine, science, entertainment, and the arts.
- Have the flexibility to learn from research leaders in the field about the latest software engineering practices and tools ranging from the latest applications of Machine Learning to the most stringent cyber security practices.
- Gain first-hand industry experience in your 3rd and 4th year team projects and build a toolkit of problem solving, analysis and design skills.
- Access experts in the field and develop your own ideas, or even a start-up, and further enhance your innovation and entrepreneurial skills.



			STATE OF THE PARTY				
	Year 1	Year 2	Year 3	Year 4			
_	Discovering Engineering	Engineering Design 2	Engineering Design 4A	TechLauncher Project			
Semester 1	Mathematics and Applications 1	Relational Databases	Software Engineering Project	Managing Software Quality & Process			
Se	Programming as Problem Solving	Computer Organisation & Program Execution	Elective Course	Digital Systems & Microprocessors			
	Discrete Mathematical Models	Software Construction	Computing/Engineering Elective Course	Computing/Engineering Elective Course			
	Foundations of Computing	Engineering Design 3	Engineering Design 4B	TechLauncher Project			
ter 2	Structured Programming	Software Engineering	Software Engineering Project	Human-Computer Interaction			
Semester	Information Theory	Systems, Networks, and Concurrency	Algorithms	Elective Course			
	Elective Course	Elective Course	Computing/Engineering Elective Course	Computing/Engineering Elective Course			
	Computing Fundamentals	Systems Engineering S	oftware Engineering Electi	ves			



Aerospace Systems Engineering

With the commercialisation of the space industry, expansion of unmanned aerial systems and satellite technologies, the aerospace industry has never been more exciting.

In the Aerospace Systems
Major, you will benefit from the
University's strengths in electrical
and mechatronics engineering,
intelligent systems, control theory,
hypersonics and space research.
Being located in Canberra provides
unique opportunities for work
experience in the space and Defence
industries ranging from Government
organisations to industry giants and
game-changing startups.



Renewable Energy Systems

The global shift to clean energy is creating demand for highly skilled professionals who have the required skills and knowledge in clean energy generation, storage, integration and use.

Taught by leading researchers in the field, this major will provide you with technical knowledge of solar and wind power, electricity transmission and distribution, energy storage, and hydrogen generation and use. It will also teach you the importance of environmental, social, resource, material and financial considerations in Engineering.

What area are you interested in?



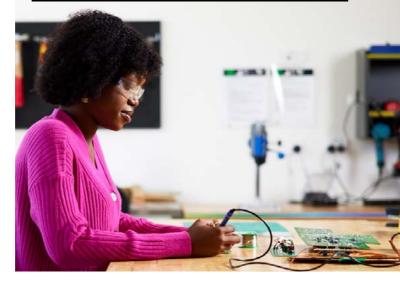
on foundational sciences including Chemistry, Biology, and Ecology, to study environmental engineering topics including water systems, environmental monitoring and modelling, and the incorporation of environmental considerations into infrastructure design.

Graduates of the Environmental Systems Major are engineers who really want to understand the connections between engineering, the environment, and people.

Electronic and Communication Systems

The Electronic and Communication Systems Major will equip you with fundamental and advanced knowledge and skills for designing the relevant modern technologies. Graduates will have the capability to construct electronic systems, develop communication and signal processing algorithms.

This Major provides you with training and diverse experiences in both theory and hands-on practical work, as well as critical thinking and problem solving.





Mechatronic Systems

In the Mechatronics Systems Major we explore real-world applications, such as robotics and autonomous systems, to deeply understand their real-world impact. Our graduates will be equipped with the necessary tools to design and operate intelligent systems that underpin our society and are crucial for our future.

Nuclear Systems

This Major is designed to provide you with fundamental and advanced knowledge of various types of nuclear technologies. It focuses on skills needed to design and manage such technologies over long timescales safely, securely, and sustainably. This major focuses on nuclear fission reactors as the most safety-critical nuclear technology graduates are likely to encounter, though the skills they develop will have broad applicability to all nuclear technologies.

You will have the opportunity to engage in hands-on design activities in this course, and develop experience working within a local nuclear facility, the Heavy Ion Accelerator Facility at ANU.





Engineering Manager (Indeed report 2024)

Senior System Engineer (Indeed report 2024)

Senior Engineering Consultant (Indeed report 2024)

Master of Engineering in Electrical Engineering

Duration: 2 years full-time | CRICOS: 077326G

Do you want to specialise in an area that is in high demand in industry and offers a multitude of opportunities? Do you want to deepen your knowledge in Electrical Engineering to take leading roles in industry and research projects? Then the two-year master qualification in the ANU School of Engineering is your opportunity.

The program covers a spectrum of compulsory topics, including power systems and power electronics, decision making and control, information processing, and systems engineering. The flexibility of the degree additionally allows you to engage with renowned faculty in the ANU School of Engineering

through specialised elective courses covering robotic systems, optimisation, signal processing, telecommunications, or energy systems.

Through hands-on projects with researchers and industry partners you can elevate your career, amplify your impact, and become a catalyst for technological innovation. The network of industry partners and renowned researchers at ANU will give you the opportunity of a smooth transition to take leading roles in industry or to embark on your journey as a scientist, starting your PhD, and becoming an independent leading researcher.



	Year 1									
	Professional Practice: Holistic Thinking and Communication									
Semester 1	Introduction to Systems Engineering									
Sem	Compulsory Courses									
	Compulsory Courses									
	Professional Practice: Responsible Innovation and Leadership									
ster 2	Systems Modelling									
Semester 2	Control Systems									
	Power Systems and Power Electronics									
	Compulsory course Systems Engineering Electives									

Group Project Group Project Compulsory Courses Compulsory Courses Elective Course Elective Course Compulsory Courses Compulsory Courses

Year 2

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Master of Engineering in Robotics, Automation and Control

Duration: 2 years full-time | CRICOS: 114603C

Recent advancements in AI show both the potential and risks of using smart machines that rely on big data and advanced software and hardware solutions. In a world of rapid evolution of smart interconnected devices, industry and academia are in need of curious minds, who enjoy problem solving and are not afraid of mathematical and engineering challenges that require out of the box thinking.

In the two-year Master of Engineering in Robotics, Automation and Control, discover how to apply interdisciplinary knowledge in fields like robotics, mechanical and electrical engineering, computer science, and control, to push the boundaries in Al-related technologies. In addition to compulsory courses on robotics, digital systems and microprocessors, decision making and control, and systems engineering, you will have the chance to interact with renowned researchers in the field through elective courses specialising in optimisation and control, stochastic processes or computer vision, among others.

Through hands-on projects with researchers and industry partners you can elevate your career, amplify your impact, and become highly competitive in the ever-growing AI industry. The network of industry partners and renowned researchers at ANU will give you the opportunity of a smooth transition to take leading roles in industry or to embark on your journey as a scientist at a top university.



	Teal T
	Professional Practice: Holistic Thinking and Communication
ster 1	Introduction to Systems Engineering
Semester 1	Compulsory Courses
	Compulsory Courses
	Professional Practice: Responsible Innovation and Leadership
ster 2	Systems Modelling
Semester 2	Control Systems
	Robotics

Compulsory course Systems Engineering Electives

Group Project
Group Project
Compulsory Courses
Compulsory Courses
Elective Course
Elective Course
Compulsory Courses
Compulsory Courses

Master of Engineering in Energy Systems

Duration: 2 years full-time | CRICOS: 114602D

The way the world is generating and using energy is undergoing massive changes, with clean technologies like photovoltaics, wind energy, hydrogen and batteries rapidly displacing fossil fuels. This massive change creates a strong demand for highly skilled professionals who are able to navigate the complex technical, environmental and social challenges and to build innovative technologies to help countries around the world to to become less reliant on fossil fuels.

You will gain a comprehensive understanding technologies like wind and solar, learn about the design of low-carbon buildings, how to decarbonise industrial processes and transport, and options for energy storage.

Compulsory course
 Systems Engineering
 Electives

You will be taught by leading researchers in the field who have contributed substantially to the development of clean energy technologies.

The program includes a compulsory set of subjects that will equip you with advanced professional engineering skills needed to work effectively in multi-disciplinary teams in the workplace to achieve engineering outcomes at a high standard.

Throughout the degree industry professionals will bring their first-hand experience and projects to share current industry challenges, trends and opportunities. These professionals can also provide you with the opportunity to make valuable contacts for your professional career.



Year 2 Year 1 **Professional Practice: Group Project Holistic Thinking and Communication** Semester 1 Introduction to Systems Engineering **Group Project** Integration of Renewable Energy into Power Systems Fluid Mechanics and Heat Transfer and Microgrids Photovoltaic Technologies Industrial Energy Efficiency and Decarbonisation **Professional Practice: Elective Course** Responsible Innovation and Leadership $^{\circ}$ **Systems Modelling Elective Course** Semester **Energy Resources and Renewable Technologies** Wind Energy Urban Energy and Energy Efficiency Photovoltaic Power Plants

WORK INTEGRATED LEARNING

Engineering Internship Program (UG & PG)

The ANU Engineering Internship Program is designed for both Undergraduate and Postgraduate engineering students to experience a real-life engineering workplace. The aim of this course is to use the internship experience to enable you to develop your engineering skills and practice. You will undertake industry placements and be assessed for academic credit. The internship will be aligned with the aims of the engineering program and your areas of specialisation. You will be able to demonstrate functioning engineering knowledge, and identify areas of further development for your future career. Internships also allow you to build your network within the industry preparing you for future employment opportunities.





ANU Capstone Design Project (UG & PG)

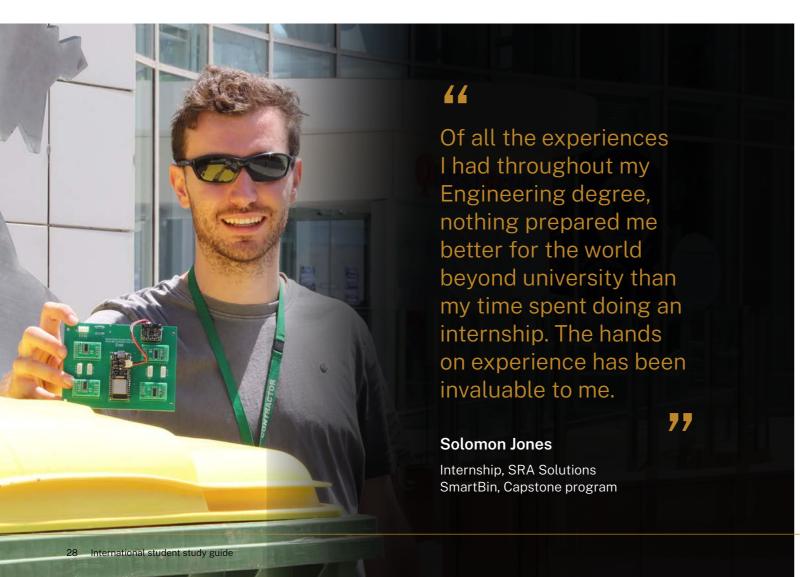
In the Capstone Design Project, you will work with fellow students as an independent team to deliver a real-world project.

Capstone exposes you to an authentic engineering experience, allowing you to display the systems engineering, technical engineering, and professional knowledge and skills that you have developed during your degree.

This course prepares you to have the autonomy required to be professionals in your field and gives students the practical experience and skills you need as a engineer.









INNOVATIVE TEACHING AND RESEARCH LED EDUCATION

Discovering Engineering (UG)

In the first year course, Discovering Engineering, you are introduced to a variety of essential technical and non-technical skills that engineers need through an open-ended project: to design and build a robot rover that can autonomously navigate through a maze.

The course is structured around the ANU Systems Engineering Process, including project scoping, requirements analysis, concept generation, prototyping, building and testing, and implementing a solution. You are taught the basic electronics, coding and problem solving that you will need for the project. You will work in teams to develop your collaboration, communication and project management skills. This is complemented by learning the importance of reflective and ethical professional practice, providing a range of fundamental skills needed by a modern engineer.





Find out more cecc.anu.edu.au/news/2023/05/31/

Research (UG & PG)

The ANU School of Engineering focuses on world leading traditional and interdisciplinary research in aerospace, mechatronics, energy, telecommunications and environmental engineering. Engineering students at ANU are exposed to research led education in multiple ways:

- Our systems courses are built around engineering design principle and provide repeated exposure to research methods and projects.
- Our major courses provide students the opportunity to learn industry-leading simulation and hardware tools.
- Our Capstone and project courses enable students to draw on the advanced knowledge and research methods they have gained throughout the degree and apply them to their project.







Solar Simulator

High-flux testing for industry and space.

This world-class facility provides 20 kW of radiation and a very high peak flux of 10 MW/m², supporting research on solar-driven chemical reactors for industrial decarbonisation, and for testing of high-temperature surface coatings. The simulator can create conditions with applications in Industry and areas, such as Space, for simulating spacecraft re-entry.



The world's largest paraboloidal dish solar concentrator.

This dish concentrates solar radiation from a ~500m² mirror surface into an aperture (lens/opening) of 530mm diameter, providing a source of heat for industrial process steam, solar thermochemical processing or high-temperature electrolysers. An active collaboration is underway to commercialise this dish, with a number of applications and a second prototype now operational in India.



Solar research facilities

Solar photovoltaics (PV) research at ANU is at the global cutting edge.

Our world-leading silicon solar cell research includes advanced defect characterisation, surface passivation, optoelectronics and manufacturing.

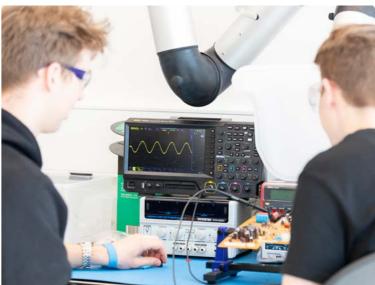
ANU solar laboratories and facilities enable the fabrication and characterisation of high-efficiency silicon and perovskite solar cells.













Careers in computing

Your graduate degree in computing will build upon your previous study and/or work experience to increase your job opportunities. The skills you develop in our degrees prepare you for work in the computer industry, corporate roles, to create your own start up or as a step toward a PhD.

Graduates are ideally positioned to take on challenging roles in their chosen sectors and become leaders in the ICT industry. They can work across a range of industries in a variety of roles, including Data Mining Specialist, Big Data Analyst, Human-Computer Interaction Specialist, Software Developer, Embedded Systems Developer, Network Architect, Systems Analyst, Computer Engineer, Advanced Software Solutions Engineer and Software Architect.

Our graduates work in organisations such as IBM, Google, Microsoft, Yahoo, Intel, Price Waterhouse Coopers, Accenture Australia, Bloomberg, National Australia Bank, Citigroup, Deloitte, Unisys and the Australian Government, as well as in academia and start-ups.

















Tina Wang Bachelor of Advanced Computing (Honours) Bachelor of Science

At ANU there's a real multidisciplinary and big picture research focus, I think there's actually a lot of humanity in computer science, which you don't realise until you look beneath it.

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EXPLORE YOUR STUDY OPTIONS IN COMPUTING

Entry requirements are subject to change. Please check the website before applying.





English language admission requirement.



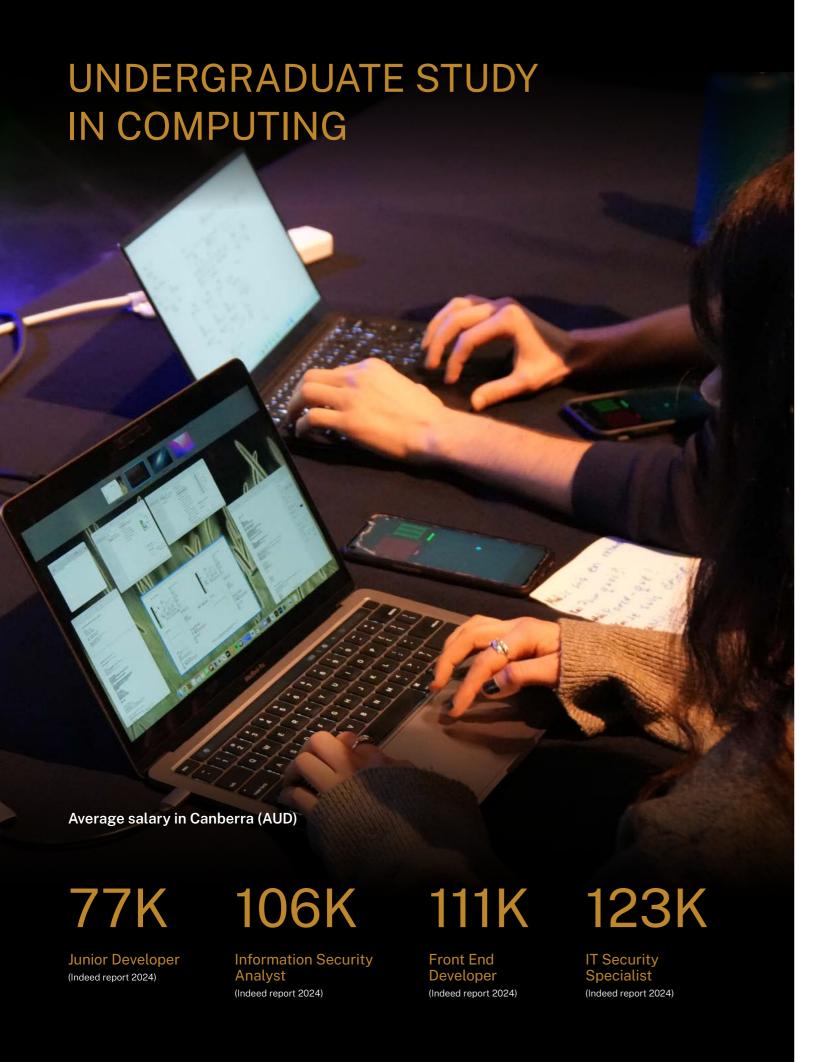
Undergraduate entry requirement

Degree	Duration (full-time)	Duration										Malaysia STPM	Malaysia MICSS UEC	UK A	levels	Singapore	Can	ada	Korea	Hong Kong	French Bac- calaureate	IB	India	India AISSC	USA SAT	USA ACT	China Shanghai	China Jiangsu	China Hainam	China other provinces	Vietnam	Prerequisites and assumed						
Degree									(best 3 subjects)	(best 5 subjects)	(best 3 subjects)	(best 4 subjects)	A levels	Ontario	British Columbia	CSAT	DSE (best 4 subjects)			ISC	(best 4 subjects)			Gao Kao	Gao Kao	Gao Kao	Gao Kao	Upper Secondary Education Graduation Diploma	knowledge									
B. Computing	3 years	11	20	13	14	10.5	77%	3.45	333	15	12.3	29	84%	13	1170	23	462	336	630	525	8.5	Advanced Maths.																
B. Advanced Computing (Honours)	4 years	14	17	14	16	13	79%	3.55	346	16.5	13.2	32	87%	14.5	1210	25	479	348	653	544	8.7	- (ACT: Mathematical Methods (Major)/ Further Mathematics (Major)/Specialist Mathematics/Specialist Methods (Major), NSW:																
B. Advanced Computing (Research & Development) (Honours)	4 years	21	5	17	21	17	91%	3.9	376	22	17.2	41	95%	19.5	1430	33	594	432	810	675	9.3	Mathematics Advanced or equivalent.)																
B. Applied Data Analytics	3 years	16	12	15	18	15	83%	3.65	357	17.5	14.3	34	90%	16.5	1270	27	502	365	684	570	8.9	Assumed knowledge of Maths																

Postgraduate entry requirement

Degree	Duration (full-time)	Academic Requirement	Cognate Disciplines
M. Computing	2 years	 A Bachelor degree or international equivalent with a minimum GPA of 5.0/7.0 OR A Bachelor degree or international equivalent with a GPA of 4.0/7.0, with at least 3 years of relevant work experience 	
M. Computing (Advanced)	2 years	 A Bachelor degree or international equivalent in a cognate discipline with a minimum GPA of 6.0/7.0 OR A Bachelor degree or international equivalent in a cognate discipline with a GPA of 5.0/7.0, with at least 5 years of relevant work experience. 	Computer Science, Software Engineering. Prospective students with other computing degrees, such as Information Technology or Science (with a major in computing), will be considered on a case-by-case basis.
M. Machine Learning and Computer Vision	2 years	 A Bachelor degree or international equivalent in a cognate disciplines with a GPA of 5/7 OR A Bachelor degree or international equivalent in a cognate discipline with a GPA of 4/7 and a minimum of three years relevant work experience 	Electrical and/or Electronics engineering, Computer Science, Software Engineering, Computer Engineering, Automation, Mechatronics, Telecommunications, Mathematics, Physics, Bioinformatics, Control systems and engineering, Statistics, artificial intelligence, Biomedical Science, Optical Engineering.
M. Applied Data Analytics	1.5 years	 A Bachelor degree with Honours or international equivalent with a minimum GPA of 5.0/7.0 OR A Bachelor degree or international equivalent with a minimum GPA of 5.0/7.0, plus at least 3 years of relevant work experience 	Actuarial Studies, Anthropology, Computer Science, Criminology, Demography/Population Studies, Engineering, Epidemiology/Public Health, Finance, Information Technology, Maths, Physics, Political Science, Psychology, Sociology, Statistics.





Bachelor of Computing

Selection rank: 80 | UAC: 136062 | Prerequisites: Advanced Maths | Duration: 3 years full-time | CRICOS: 112692B

Computing is a part of everyday life. It is changing the way we live, learn, work, and socialise. If you are interested in driving this exciting revolution, in a truly globalised and fast changing industry, this program is for you.

You will receive a strong grounding in computing fundamentals to set up your foundation to tackle

the rapid and progressive nature of technology. With Computing as an intrinsic part of all industries; knowledge of software development, cyber security, artificial intelligence and information systems is highly sought after by the best employers. Other students have been supported to build on their own ideas and create startups.





Why choose Bachelor of Computing with a Data Science Major instead of Bachelor of Applied Data Analytics?

The Bachelor of Computing with a Data Science Major offers a degree which allows you to study computing in depth with the flexibility to explore data science in computing. If data is your passion, the Bachelor of Applied Data Analytics offers a Computing Degree specialising in Data Science. The focus remains on the data with courses outside the computing realm for data analysis including exploring social research, statistics and demography.

Flexible Double Degree

ANU Flexible Double Degrees offer the chance to complete two degrees in less time than it takes to complete them separately. You complete the full Bachelor of Computing, and at the same time specialise in another degree. Graduating with two degrees from Australia's national university is a powerful combination. You can drive the computing revolution from the discipline of your other degree; from Law, Arts, Social Sciences, to Science, Biology or Psychology. Or you can bring these interdisciplinary skills to enhance solving problems with Computing.

Honours

For students who excel in computing, an honours year of the Bachelor of Computing offers the opportunity to develop advanced computing skills, preparing you for industry roles in advanced computing and research. The honours year focuses on advanced coursework and a major individual project. Honours is the pathway to higher degree research. Students interested in Honours may apply directly to the university. Explore research projects available on the ANU School of Computing website.

Bachelor of Advanced Computing (Honours)

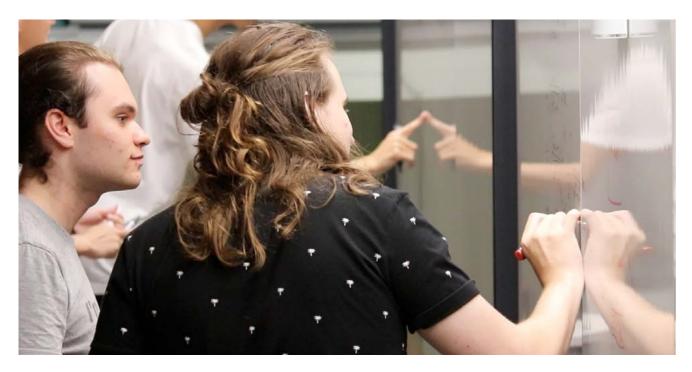
Selection rank: 85 | UAC: 135705 | Prerequisites: Advanced Maths | Duration: 4 years full-time | CRICOS: 077939A

This program gives you a comprehensive education in the field of Computing. You will understand the whole spectrum of Computing: low-level functioning of a computer, high-level programming techniques, the theoretical foundations of computing, as well as effective communication and teamwork strategies.

As a degree accredited by the Australian Computer Society, you will learn advanced

computing techniques and have the opportunity to complete a unique specialisation in the area of computing that interests you the most.

You can combine the Advanced Computing program in a Flexible Double Degree with areas across the university, to match your personal interest and background such as science, economics, politics, language or music, and more.



Industrial experience

Computing internship

The Bachelor of Advanced Computing (Honours) gives you an opportunity to complete an internship with one of the University's industry partners. During this internship, you will be able to apply your knowledge to real-world problems and to refine your skills while working alongside professionals. Internships are also a great way to hone your network and begin your journey into professional employment.

TechLauncher

TechLauncher is a group project that allows you to apply your skills to practical and challenging tasks. You will have an opportunity to channel your creativity and problem-solving skills while working on an exciting project. TechLauncher will also develop your collaboration and teamwork skills as you work within a team of peers, a critical skillset for your professional career.

Research experience

During your Honours year, you will have the opportunity to work on a substantial research project with academics from the ANU School of Computing. This project will use the knowledge and skills learnt in the most advanced topics covered during the program. These projects also contibute to cutting edge progress in Computing. You never know where your research project may take you!

There are also options every year for Summer Research Scholarships in a variety of topics.





Bachelor of Advanced Computing (Research & Development) (Honours)

Selection rank: 98 | UAC: 135700 | Prerequisites: Advanced Maths | Duration: 4 years full-time | CRICOS: 085359K

Our Research & Development (R&D) programs have an innovative structure, allowing you to conduct research projects throughout your degree.

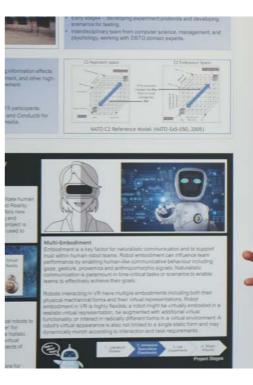
This program features an accelerated mode of learning, with advanced courses starting from your first semester at ANU. You will receive unique opportunities to complete multiple research projects alongside our world-class academics.

From the second year, these research projects will form part of your coursework, exposing you to cutting-edge research. You'll get a taste of what it's like to undertake research while completing

a degree that will position you for a career in industry. You can combine a Research and Development program in a Flexible Double Degree.

We are the only university that offers Undergraduate Research and Development programs in Australia.

We also offer pathways into Research and Development. If you commence in a Bachelor of Advanced Computing (Honours) and achieve a High Distinction average in your first year, you may be eligible to transfer into a Research and Development degree from the second year of your degree.





Research experience

Research skills and experience is embedded into the Research and Development (R&D) degree. Starting with coursework and short research projects you will develop the skills required to complete a major research project in your final year.

Students work collaboratively with academics to choose research topics that both interest and challenge them, enabling them to contribute to the worldwide research community. Previous students have completed research in areas including machine learning, artificial intelligence, cyber security, computer architecture, game design, theory of computation and logic.



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Bachelor of Applied Data Analytics

Selection rank: 90 | UAC: 135801 | Prerequisites: Assumed knowledge | Duration: 3 years full-time | CRICOS: 094621D

Bachelor of Applied Data Analytics is a broadbased data analytics program that addresses the full lifecycle of data science and analytics, including framing data questions, collecting or repurposing data, analysing data with a range of statistical and artificial intelligence methods, and using data to monitor outcomes of interventions taken, with applications in social policy. It offers knowledge and experience with a wider range of commercial and open-source analytics tools. You will learn to deliver high-quality, data-informed decision-making. This program includes courses in computing, statistics, and social science. These highly sought-after skills can be applied in careers across business, government, and community sectors – including areas such as finance, health, and national security.



Flexible Double Degree

Most students choose to study Bachelor of Applied Data Analytics as part of a Flexible Double Degrees, and they select one of around 30 different ANU degrees to pair it with. The most popular pairings are Commerce, Actuarial Studies, and Economics. Close behind in popularity are Finance, Advanced Computing, Science, and Politics, Philosophy and Economics. Students with a quantitative interest are recognising the importance of broad-based analytics and data science, including artificial intelligence, in diverse future careers.

Students who choose a Flexible Double Degree with Statistics, Computing, and some other fields, will find that the Bachelor of Applied Data Analytics requires some courses, especially foundational ones, that are also required for the paired program. In this case, they are usually permitted to pick up a elective to make up the difference.

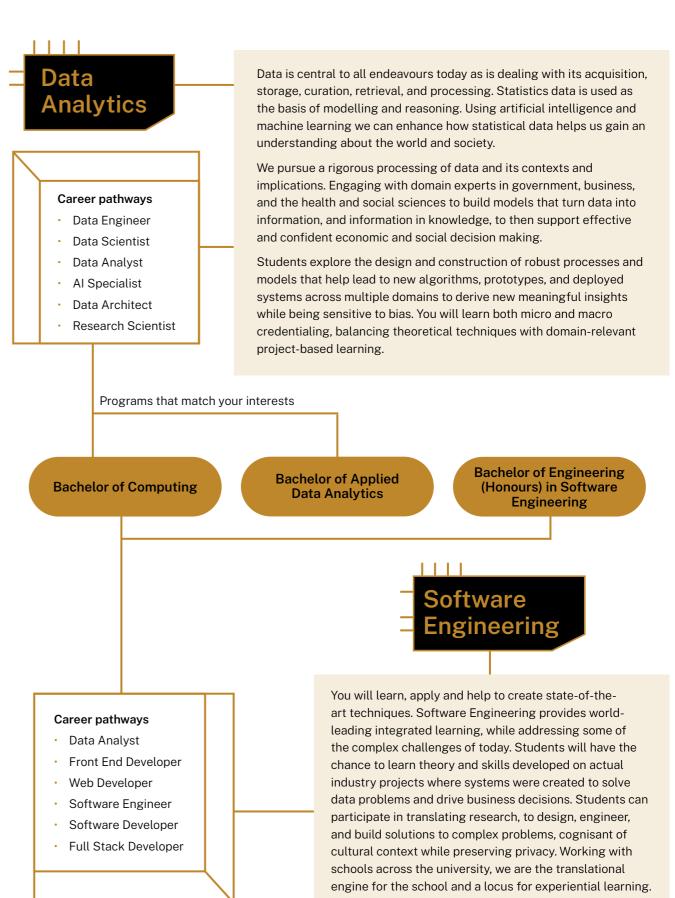
Honours

An honours year of the Bachelor of Applied Data Analytics is available for eligible students. The honours program includes advanced coursework and a major individual project. The student may choose a topic related to a broad range of disciplinary contexts in line with the interdisciplinary nature of the program. An honours program deepens your expertise in the field and equips you for industry-based roles or for postgraduate research degrees.

External students may apply directly to the honours year, although the uniqueness of the ANU Bachelor of Applied Data Analytics program may make it challenging for external students to establish the near-equivalence to their undergraduate program.

LET YOUR INTERESTS GUIDE YOU

Explore study areas that match your interests and career goals with the program we teach.



What area are you interested in?

Cyber Security

Cyber security is a growing field of research and jobs in Australia and around the globe. Students will learn how to setup and protect data, systems and devices, from computer viruses and ransomware attacks. Studying network protocols, cryptography, failed security principles and vulnerabilities you will learn how to design and implement ways to block attacks and protect data, systems and devices.

We work closely with industry partners to solve their real problems on real-world systems. Our education programs emphasise hands-on implementation and project-based learning including innovative activities such as cybersecurity Capture the Flag assessments.

Career pathways

- Cyber Security Technician
- Cyber Security Analyst
- Data Architect

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Solutions Architect

oundations

Computing platforms underpin global commerce, governance, and social wellbeing as critical infrastructure. You will learn the theory to improve the safety, reliability, usability, and performance of computing systems, and how to make them scalable and secure.

You will be able to study and participate in research in the foundations of computing: logic and verification, theory of computation, formal methods for software engineering, user interfaces, and programming languages and tools. We work closely with industry partners on finding solutions to problems for real systems. Our education programs emphasise hands-on implementation and project-based learning.

Career pathways

- **Business Analyst**
- Computational Scientist
- Research Scientist
- Computational Research Assistant
- Service Designer

Human Centred and Creative Computing

You will learn how to design, implement, evaluate, and investigate new human-centred technologies and their impact on humans, societies, and environments. You will develop skills in interaction design, advanced computation, and mixed methods approaches to developing and analysing humancentric technologies, data, and processes.

These skills will be put into practice in courses varying from human-computer interaction, creative technologies, games and immersive environments, sound and music computing, and programming for art, graphics, interaction, and software engineering. There will be opportunities to work closely with industry partners and across ANU with collaborators in areas such as art and design, psychology, health and medicine, philosophy, law, and management.

You could choose to join public performances of the laptop ensemble or participate in research on interdisciplinary challenges related to technology and ethics, environment, and inclusion.

Career pathways

- UX Designer
- UX Researcher
- · Front-end developer
- XR Developer
- Audio Programmer
- · Sound Designer
- Immersive Simulations Developer
- Interaction Designer
- Creative Al Expert
- · Video Game Programmer

Artificial Intelligence/ **Machine Learning**

Machine Intelligence augments human intelligence in analysing and synthesising vast amounts of information. You can explore computational modelling and design of intelligent agents in complex real-world contexts. You can dive deeper into our research that integrates artificial intelligence, machine learning and vision, natural language understanding, and robotics, to build autonomous systems that can perceive, plan, and respond to their environment in pursuit of high-level goals.

You will be able to study introductory and advanced courses in artificial intelligence, and machine learning from the foundational science to implementation of large-scale practical intelligent systems, with applications in computer vision, language understanding, and robotics, co-taught and co-developed across the College. We also work across the University to address questions on integrating human and social values in artificial intelligence systems, touching on aspects of philosophy, cognition, ethics, and safety.

Systems and Architecture

Computer systems and computer system architectures provide critical resources ranging from purpose user application programming to highly specialised real-time embedded development environments.

Students will study computer systems including their use, architecture, design, implementation, and limitations. You will design systems, do modelling and simulations, develop algorithms and code to produce high performing systems and understand database design methods. We emphasise hands-on implementation and project-based learning.

If research is your thing, we have projects available where you can work with our industry partners to work on innovative solutions to their real-world problems.

Programs that match your interests

Bachelor of Computing

Bachelor of Advanced Computing (Honours)

Career pathways

Artificial Intelligence Specialist

Bachelor of Advanced

Computing (Honours)(R&D)

- Research Scientist
- Service Designer
- Robotics Engineer

Career pathways

- Systems Administrator
- Network Specialist
- **Business Analyst** Front End Developer
- Solutions Architect

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Average salary in Canberra (AUD)

Software Engineer (Indeed report 2024)

106K 111K 136K

Machine Learning Engineer (Indeed report 2024)

Master of Computing

Duration: 2 years full-time | CRICOS: 078940M

The Master of Computing is a 2-year full-time (or equivalent part-time) degree with two target audiences: graduates without a computing background who wish to acquire a solid knowledge of computing, and graduates with a computing or information technology background who wish to broaden and deepen or refresh their knowledge. The program is professionally accredited by the Australian Computer Society.

Master of Computing graduates will develop a deep knowledge and understanding of professional software development and computing practices. Students have the

opportunity to participate in many cutting edge courses and, depending upon their background and interests, may choose to specialise in Artificial Intelligence, Machine Learning, Computer Architecture and Systems, Theoretical Computational Foundations, Data Science, Human Centered Design & Creative Computing, or Software Development. The program culminates in a capstone project: either completing an Internship, working in small groups to solve a clients problem via TechLauncher or by completing a research project supervised by an ANU academic.



Industrial experience

Computing internship

The Master of Computing gives you an opportunity to take an internship with one of the ANU industry partners. During this internship, you will be able to apply your knowledge to real world problems, refine your skills and learn some new ones, all while working alongside professionals.

TechLauncher

TechLauncher lets you apply your skills to practical and challenging problems as part of a group. This gives you an opportunity to express your ideas and passions, work on exciting projects, and practice and develop the competences required for collaboration within a team of peers.

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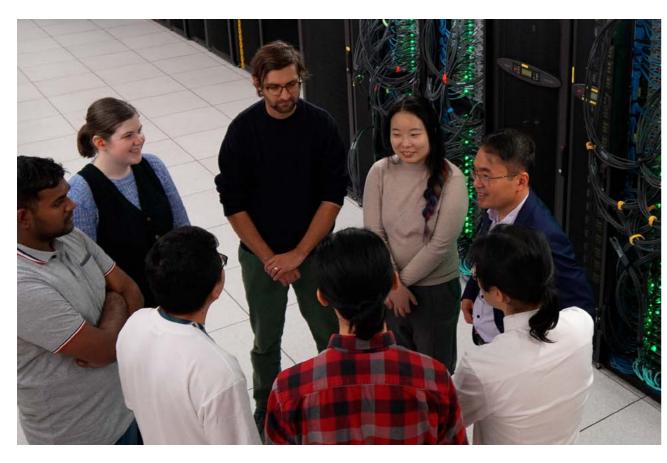
Master of Computing (Advanced)

Duration: 2 years full-time | CRICOS: 085934F

The Master of Computing (Advanced) is a 2-year full-time (or equivalent part-time) degree targeting students who wish to enter industry in an Research and Design (R&D) or leadership role or who wish to pursue a PhD.

Master of Computing (Advanced) graduates will build upon their existing knowledge and understanding of professional software

development and computing practices. Students will be exposed to best practice research methods and have an opportunity to explore a specialisation area in more depth. In the final year they will complete a thesis on an intensive research project under the supervision of one of the university's leading researchers.





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This program has allowed me to explore my interests in various domains and I am fortunate enough to have had the opportunity to work on a research project this semester. ANU has provided me with the golden platform to enhance my skills and abilities, not only professionally but also on a personal level, and I feel extremely grateful for this opportunity.

Vidhu Chaudhary

Master of Computing (Advanced)

Master of Applied Data Analytics

Duration: 1.5 years full-time | CRICOS: 097058B

The Master of Applied Data Analytics is a 1.5 year full-time (or equivalent part-time) degree that trains students from foundational to deep data analytics skills and enables experts from other domains to learn the advanced data skills to become a data scientist in their domain knowledge area. We offer a unique blend of data science, statistics and social science to teach the techniques from each of those fields, and provide advanced electives in each field to allow students to specialise.

There is a global shortage of graduates with skills in data analytics, which is vital to the development of high-quality, data-informed decision-making. Graduates can be involved in wide-ranging applications for the Governments, multinational corporations and the broader community, all of which are facing the challenge of how to use public data effectively and informatively.





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Applied Data Analytics is perfect for people who are eager to learn and have broad interests. The versatility of my degree has allowed me to discover what really sparks my passion, which is solving societal issues using holistic approaches. I'm combining the study of cultural background, qualitative data collection, and analytical statistic programming skills.

Naomi Chin

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Bachelor of Applied Data Analytics

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Master of Machine Learning and Computer Vision

Duration: 2 years full-time | CRICOS: 099247C

The two-year Master of Machine Learning and Computer Vision (MMLCV) program provides students with theoretical knowledge, technical skills and hands-on experience that will prepare you for a career in the field of machine learning and computer vision.

ANU is one of the finest research universities in Australia, and hosts the ARC Centre of Excellence for robotic vision. This program is taught by world-class professors and award winning researchers in the fields of computer vision,

machine learning and artificial intelligence. It also allows students to explore their interests by completing an internship or undertaking a research project which can be a potential pathway to a PhD.

Graduates of MMLCV will be able to help develop future technologies like self-driving cars, artificial intelligence mirrors that 'try on' clothes, technology to detect illnesses and using drones to monitor crops.

Industrial experience

The Master of Machine Learning and Computer Vision gives you an opportunity to take an internship with one of the ANU industry partners.

During this internship, you will be able to apply your knowledge to real world problems and to refine your skills while working alongside machine learning and computer vision professionals.

Research experience





The more I delved into machine learning, the more I realised that I had found something to keep challenging me for the rest of my life. I also saw the potential impact of this technology. I could see myself solving problems I have always wanted to solve.

Tanya Dixit

Solution Architect at Google Master of Machine Learning and Computer Vision

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WORK INTEGRATED LEARNING

School of Computing - TechLauncher

TechLauncher is an initiative which enables students at ANU to develop and exhibit research and professional skills while bringing great ideas to life and positively impacting society. Industry, non-profits and government organisations collaborate with CECC students and researchers to develop, prototype and launch solutions to real-world problems.

Students practice and develop competences in the context of their discipline (such as computer science) but they also gain experience such as working collaboratively on projects, communications and stakeholder management, critical thinking, design, teamwork and time management. These are all skills valued by investors, colleagues and employers.





Computing Internship Program

The ANU Computing Internship Program provides Masters and 4th year Undergraduate students the opportunity to undertake a one semester internship in a technology industry environment to apply technical skills and build professional skills. The placements with local, interstate, and international industry and government organisations are an assessable part of the student's degree.

Students are matched with hosts to allow them the opportunity to work with industry, applying knowledge and skills learnt in their courses to solve real-world challenges. This valuable work experience connects students with future employers and helps students demonstrate initiative and adaptability while growing their communication and networking skills.









INNOVATIVE TEACHING AND RESEARCH LED EDUCATION

Escape room

One room, 60 minutes, five puzzles and the only way out is to solve them. That's the challenge facing students at the ANU School of Computing.

Tapping into a global trend of escape rooms where participants are locked in a room and must solve puzzles in order to get out — the innovative teaching exercise is the creation of Senior Lecturer Dr Bernardo Pereira Nunes. It aims to teach computational thinking, problem-solving and collaboration, while having a bit of fun.

Students enrolled in the Software Design Methodologies course were invited to organise themselves into teams and choose a time slot to try their luck. Each of the puzzles addresses different topics taught in the course, including software testing, design patterns and Unified Modeling Language (UML).





Find out more

School of Computing

The ANU School of Computing is a transformative centre for research in artificial intelligence and machine learning, computer systems and software, and theoretical foundations of computing. Students can participate in research that spans traditional computer science, data science and computational science.

Computing students at ANU have the chance to help seek creative solutions for the great challenges of our age. Students will experience research led teaching, where lectures feature examples from recently published papers by the lecturer or guest lecturers. They also have the opportunity to explore computing further in Honours research projects and summer research scholarships.







Robotics and drones

Cutting-edge flying facilities and rapid prototyping equipment.

We conduct fundamental research for unmanned vehicle technologies, particularly aerial robots.

We are co-located with the Computer Vision, Networked Systems and Quantum Cybernetics research areas, creating a dynamic environment that supports breakthrough interdisciplinary research.



Raijin

Gadi

The most powerful supercomputer in the southern hemisphere.

ANU is home to Gadi, a high-powered supercomputer at the National Computational Infrastructure (NCI) that is used by researchers across the university and country.

The machine is named 'Gadi' [pronounced Gar-dee], a word of the Ngunnawal people meaning 'to search for'.

Gadi contains 145,152 CPU cores, 567 Terabytes of memory, and 640 GPUs, and is capable of performing nine quadrillion operations per second.



Computing lab

Eight state of the art student computer labs.

Students have 24/7 access to these labs and computers for study and project work. There is a dedicated Computing facilities team that manage the lab and also help ensure students can access required resources from their own laptops. When needed, the students can also access High Performance Computing cloud platforms.











BRONZE WINNER

for the Developing Emerging Skills and **Competencies Award**

(QS Reimagine Education 2023)

A prize awarded to projects/initiatives that are effectively developing skills and competencies for the present and future of work.

DIVERSITY

We welcome applications from candidates who come from diverse backgrounds and disciplines, including those who have pursued non-traditional academic pathways but have met the professional experience levels of assumed knowledge.

SMALL COHORT

Entry to the program is by competitive application only, and the number of students is strictly limited to under 20.

SCHOLARSHIP

Scholarships are available to remove barriers to entry and encourage diversity through recognition of individual background, education, and industry experience.





WHAT IS **CYBERNETICS**

Cybernetics is the study of dynamic, complex systems that comprise of people, technology, and environments. The term cybernetics was coined back in 1948 from the Greek word kybernetes, meaning to steer, or pilot.

Cybernetics is an approach to emerging technological complexities. It enables a transdisciplinary understanding of the components, connections, and dynamics to shape and steer complex systems.

The School of Cybernetics is on a mission to help Australians navigate major societal transformations, including those that involve new and emerging technologies.

World first postgraduate program in cybernetics

At the ANU School of Cybernetics we draw on the history of cybernetics and reimagine it for our 21st century challenges. We are a non-traditional school making space for different futures that consider the environment, the people within it, and how technology can help, rather than harm. Futures that are safe, sustainable, and responsible.

The ANU School of Cybernetics is establishing cybernetics as an important tool for navigating major societal transformations through capability building, policy development, and safe, sustainable, and responsible approaches to new technological systems, such as artificial intelligence and the metaverse.

We are building a new generation of practitioners who will shape a future that we want, both through and with technology.



Find out more



Through the master's degree, I was able to further develop my own thinking about the challenges we face in relation to technology and the unique opportunities **Applied Cybernetics** provides to make meaningful contributions to this work.

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Julian Vido

Master of Applied Cybernetics PhD Candidate School of Cybernetics

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EXPLORE YOUR STUDY OPTIONS

Master of Applied Cybernetics

Duration: 1 years full-time | CRICOS: 103368M | Scholarships are available

The ANU Master of Applied Cybernetics is the first of its kind and the only master's program in applied cybernetics in the world. We offer a once-in-a-lifetime opportunity to be a part of a new generation of practitioners creating the skills and knowledge our world needs to ensure new technological systems are safe, sustainable, and responsible.

The Master of Applied Cybernetics is a 1-year full-time degree, comprised of four courses that interact and reinforce each other. Entry is by competitive application only, and the number of students is strictly limited. We welcome candidates who have pursued non-traditional academic pathways. Our past students come from diverse backgrounds, including lawyers, policymakers, start-up founders, activists, journalists, and artists.



Master of Applied Cybernetics (Advanced)

Duration: 1.5 years full-time | CRICOS: 103369K

The Master of Applied Cybernetics (Advanced) program allows for students to become cybernetic practitioners through coursework whilst enhancing these skills in completing a longer independent or outside organisation based research industry project.

This program extends the Master of Applied Cybernetics to 1.5 years full time study (or part-time equivalent), giving the student the opportunity to conduct an independent or external organisation-based research project and produce a research paper.



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I thought laws were the best point of intervention to address social harm, then I realised technological systems are equally, and increasingly, important.

Bias and marginalisation are not created by technology, but they can be amplified or accelerated by technology. My focus shifted, and the trajectory of my life transformed.

Ned Cooper

Master of Applied Cybernetics
PhD Candidate School of Cybernetics

Z

As a Te Aitanga a Hauiti, Ngati
Porou, Te Arawa woman from
Aotearoa I was drawn to the
Master of Applied Cybernetics
as I'm interested in disrupting
conventional innovation
practices and exploring how the
intersection between technology
and First Nations knowledge and
practice could achieve this.

Michelle Jasper

Master of Applied Cybernetics
PhD Candidate School of Cybernetics

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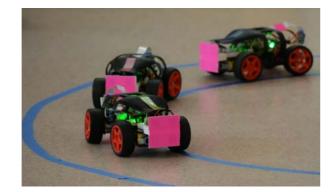
WORK INTEGRATED LEARNING

Professional Placement

The Professional Placement gives students exposure in applying the skills and approaches learned throughout their coursework to a professional environment.

Students who undertake our professional placement program will be embedded within an industry, community, government, start-up, or academic organisation as a practitioner of Applied Cybernetics. Through this placement students contribute to a project related to cybernetic systems including carefully examining new and emerging technological systems, the building blocks they are made from, and the questions they raise for human society and our ecosystems.

By undertaking professional placements as a cybernetic practitioner you will gain experience in framing questions, analysing data, applying a systems-level approach, communication and collaboration skills. It also provides opportunities to build on your professional network and experience.



Demo Day

Our Demo Day is an exciting day for everyone at the School of Cybernetics, most of all for our Master of Applied Cybernetics cohort. Students exhibit the skills they've learned and developed throughout the year, along with their previous backgrounds and expertise. The students explain how they conceptualised, designed and created cyber-physical systems which may incorporate artificial intelligence, feedback loops, sensors and actuators, and the potential these have to scale in the real-world.



YOUR FUTURE WITH CYBERNETICS

Our graduated Master's students have gone on to senior leadership roles in digital, data and artificial intelligence in Federal and State governments, non-profits and industry, as well as on to PhDs at the ANU and other leading global universities.



Your current profession

including your prior education and work experience.

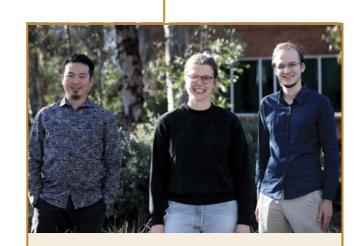


ANU Master of Applied Cybernetics.

The ANU Master of Applied Cybernetics is our flagship education program. It is the first of its kind and the only master's program in applied cybernetics in the world.







Continue your higher education journey, start a PhD in Cybernetics.



Potential for you to have a career change, or **build responsible futures** in your current organisation or industry as a qualified cybernetic practitioner.

HOW TO APPLY

Undergraduate applications

I am living and studying outside Australia and New Zealand

You can apply to ANU at any time of the year. You can nominate three degree preferences in your application, which increases your chances of getting an offer. We consider applications on a regular basis and you can expect a response within two weeks of application submission.

An education agent can support you throughout the application process and answer your questions about ANU. They can also upload your documentation and submit your application on your behalf.

$\widehat{\rightarrow}$ Apply directly to ANU

Login to the application portal

Upload your details and follow the prompts to navigate your way through each step in the application portal. You can log out and go back to your application at any time before the closing date of your offer round.

Apply for a scholarship

Tick the scholarships box in the application portal and we will automatically consider you for some, including the Chancellor's International Scholarship — which could reduce your tuition fees by 25 or 50 per cent.

Live in a student residence

Tick the accommodation box in the application form and choose where you would like to live. We make it easier for you to settle into your first year at ANU by guaranteeing you a room in a student residence.

Upload your documentation

This includes your academic transcripts and evidence of your English language proficiency.









Application dates for study in 2025

Semester 1

February - December 2024

Semester 2

June 2024 - May 2025

Application dates for study in 2026

Semester 1

March - December 2025

Semester 2

June 2025 - May 2026

What will happen next?

How will the University assess my application?

We will consider your academic qualifications then compare these with the qualifications of other international applicants to assess your eligibility for an offer.

When will I receive an offer?

ANU will send you an offer quickly if your application is complete and meets the admission requirements. If you are required to satisfy additional admission criteria, you may receive a conditional offer.

When will I need to pay for my student accommodation?

The date of the first accommodation payment will depend on the date your accommodation contract starts. This date could be within a few days, a week or a month from when you accept your ANU offer.

When will I need to pay my tuition, services and amenities fees?

When you accept your offer to study at ANU, we will ask you to pay a deposit of approximately AUD \$20,000. Your tuition fees will be drawn from this deposit until the funds run out. After that, we'll invoice you for your tuition and the student services and amenities fee (approximately an additional AUD \$326 per year) at the start of each semester.

Postgraduate applications

Make sure you meet our admission requirements before you apply. When we receive your application, we'll automatically consider you for a range of scholarships.

You can apply to ANU at any time of the year. You can nominate three degree preferences in your application, which increases your chances of getting an offer. We consider applications on a regular basis and you can expect a response within two weeks of application submission

Application dates for study in 2025

Semester 1

February - December 2024

Semester 2

June 2024 - May 2025

Application dates for study in 2026

Semester 1

March-December 2025

Semester 2

June 2025 - May 2026

Apply through an agent

An education agent can support you throughout the application process and answer your questions about ANU.

They can also upload your supporting documentation and submit your application on your behalf.





Apply directly to ANU

You can apply directly to the University by creating an account in the ANU postgraduate application portal.

Upload your details and follow the prompts to navigate your way through each step. You can log out and go back to your application at any time before you submit it.









At the ANU College of Engineering, Computing and Cybernetics, we are home to some of the world's brightest and most innovative researchers.

We conduct research and teaching that aims to deliver solutions to some of the most pressing technological and environmental challenges the world faces, nurturing individuals who will lead the way in finding solutions to these challenges.

The college has an extensive network of international collaboration with research institutions and industries in Europe, the Asia Pacific and the USA, as well as across Australia.

The College offers two HDR degrees. Both of which are advanced research-focused degrees, producing high-quality original research under the supervision of world-class academics and vibrant intellectual leaders.

Doctor of Philosophy (PhD)

Duration: 4 years full-time CRICOS code

 Computing: 114814C • Engineering: 114813D

Cybernetics: 113800F

Master of Philosophy (MPhil)

Duration: 2 years full-time CRICOS code

- · Computing: 114815B
- · Engineering: 114816A

As a HDR student at CECC you will work independently, under the direction of a supervisory panel of experts. Your research will make an original and important contribution to human knowledge, research and development.

If you would like to join a dynamic and pioneering research environment where you can pursue your interests, please follow these steps to self-assess your eligibility for our programs.

Are there English language requirements?

All applicants must provide evidence that their English language ability meets the minimum requirements for admission.

What are the tuition fees?

International students are required to pay tuition fees unless they are in receipt of a tuition fee waiver scholarship. Information on fees can be found on the Programs and Courses page for our HDR programs.





Find out more about

Contact the Graduate Research Office (GRO)

The GRO can help you with any queries you have about the status of your application or connect you to your college or research area.

Email: gro@anu.edu.au Phone: +61 2 6125 5777

O Step 1

Confirm you meet the admission requirements for our PhD or MPhil programs

Admission to a PhD at CECC requires:

- · An Australian Bachelor degree with at least Second Class Honours-Upper (First Class Honours is often required) or its international equivalent, or
- Another degree with a significant research/ thesis component that may be assessed as equivalent to point one, or
- A combination of qualifications, research publications and/or professional experience related to the field of study that may be assessed as equivalent to point one.

Admission to a MPhil at CECC requires:

- An Australian Bachelor degree or higher, with an overall grade of distinction or higher, or its international equivalent, or
- Another degree that may be assessed as equivalent to point one, or
- · A combination of qualifications, research publications and/or professional experience related to the field of study that may be assessed as equivalent to point one.

O Step 2

Identify your preferred research area, project, and supervisor

Our College conducts research within our three schools; each school contains distinct activity clusters of academic and strategic focus.

You are invited to browse the School websites for a project within your interest. Or if you already have a project in mind, you can find a CECC supervisor to support your proposal.



School of

Computing







School of School of Engineering Cybernetics

Step 3

Secure support from a potential supervisor

Once you have decided on your project and found your preferred supervisor, you should reach out to them via email. It's a good idea to approach your potential supervisor in a professional manner. Write a brief email introducing yourself and why you will be a good fir as an HDR candidate in their research area.

You must also include all relevant information to your application including a current CV and a one-page research proposal.

O Step 4

Submit a formal application

Once you have received the approval of your supervisor and endorsement from CECC, you can then proceed with submitting an application to your program.

Apply through the ANU postgraduate application portal at any time of the year. Make sure that you do this within the deadline of any scholarships you may be considering.

ANU will take 6-8 weeks to assess your application. This could take longer if we are also considering you for a scholarship.

Login to the ANU application portal. It's free! Once you register, you can log out and go back to your application at any time.



To ensure you have submitted a complete application, ensure to include all of the following documents:

- An application submitted through the ANU application portal
- A current CV
- A research proposal
- Colour copies of all transcripts and completion certificates of prior study, in original language and official English translations
- 3 complete referee reports (To be nominated through the application portal).

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GET IN TOUCH



Message a student adviser

Message a student adviser on WhatsApp or Wechat. We're available during local Canberra time Mon-Fri 9am-5pm.









Book a one-on-one chat or campus tour

Let us know what times work for you and we will book in a Teams call.



Ask us anything

Join our monthly information sessions to have all your questions answered! Learn about life on campus, facilities, managing work alongside studies and employment opportunities.



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CONTACT US

Chat with us and learn more about ANU and why it's the place for you.



facebook.com/anucecc



instagram.com/anucecc



youtube.com/ANUexperience



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