EDITH COWAN UNIVERSITY

Careers in Engineering

- Aeronautical Engineer
- Application Engineer
- Aviation Operations Controller
- Chemical Engineer
- Civil Engineer
- Communications Engineer
- Computer Engineer
- Electrical Engineer
- Energy Engineer
- Environmental Engineer
- Instrumentation Engineer
- Maritime Engineer
- Mechanical Engineer
- Mechatronics Engineer
- Pilot
- Renewable Energy Engineer
- Robotics Engineer
- Structural Engineer

Creative thinkers made here.

2026

Shape the future

Creative thinking.
It's essential for tackling challenges.
Seizing opportunities.
For today.
But more importantly, tomorrow.
Creativity is how we move forward.
It sparks innovation.
In every industry.
And at ECU, it's at the core of everything we do.

Creative thinkers made here.

At ECU, we recognise and respect the significance of Aboriginal and Torres Strait Islander peoples' communities, cultures and histories.

We also acknowledge and respect the Noongar people as the traditional custodians of the land on which our campuses are located.

Front cover features Bachelor of Engineering (Mechanical) Honours student Jai Morris-McCall

ECU City opening in 2026

ECU City represents the future of university education – a place where technology, industry and creativity meet to deliver the creative thinkers the world needs.

Located at the heart of Perth's commercial, cultural and entertainment districts, ECU City will feature state-of-the-art spaces for study and collaboration, cutting-edge learning and technology facilities, and world-leading performance venues.

ECU City will open to students from semester one, 2026.

Find out more –
ecu.edu.au/degrees/ecu-city

Why study at ECU?

**There are so many good reasons to choose ECU for study.
Here are some of the better ones.**

Get career ready while you study

During your studies, we'll help you build your personal brand to prepare you for a new career.

Become a creative thinker

Creative thinking is a skill that's highly valued by employers and we'll help you make it your superpower.

Travel overseas as part of your studies

In lots of courses, you'll have opportunities like study exchanges with other unis, study tours and more.

Experience 5-star teaching and student support

Your lecturers and tutors will help you get the best out of yourself and will introduce you to new networks and possible employers.

Know you'll be supported

We'll help you adjust to your new life as a student, whatever your study or personal challenges.

Build your own degree

For many courses, you can choose major subjects and electives to tailor your studies to your passions.

Get practical experience outside the classroom

You'll quickly turn theory into practice with work experience opportunities like internships, practicums and more.

Apply for a scholarship

Our scholarships are awarded to students from all kinds of backgrounds and for all kinds of reasons. It's not just the academically brilliant ones. This includes people who've had a challenging life without the same opportunities as others. A scholarship can help you realise your ambitions by paying for fees, textbooks and living expenses.

Find out more — **ecu.edu.au/scholarships**

Industry partnerships open doors to you

Exciting internship or prac placements through our partnerships with IBM, West Coast Eagles, state-wide schools, hospitals and more.

Top rated university

THE World University Rankings Young 2024 TOP 100

Ranked in the world's top 100 universities under 50 years old.

QILT Quality Indicators for Learning and Teaching

The top public university in Australia for undergraduate overall experience.

Teaching Quality 2025

Rated 5 stars for undergraduate teaching quality for 18 straight years in a row.

Start your career

It's not unusual for uni students to be unsure about careers or what course to study. Here are some ways to help you decide what to study.

Try our 5-minute Career Finder quiz

This quiz might surprise you with a suggested career direction and courses that take you there.

Take the quiz –
ecu.edu.au/study/career-finder

Check out our study areas

Our eight study areas cover courses that lead to different careers and industries.

Find out more –
ecu.edu.au/degrees/study-areas

Parents' guide to university study

Whether your child is the first in the family to go to university or you've been here before, this little guide will help you understand some of the mysteries of higher education.

Download the guide –
ecu.edu.au/industry/career-counsellor-resources

Come to an event

Visit one of our campuses and attend an Open Day or information session.

Find out more –
ecu.edu.au/events

Life as a student

It doesn't matter if you've just left high school or you haven't been a student for a few years, study at uni is a whole new world.

The good news is, no matter what your study challenges, we're ready to help you succeed.

Adjusting to study whatever your situation

At ECU, we'll support you through your studies whatever your personal circumstances.

Our Access and Inclusion team will work with you to identify reasonable adjustments to your study and uni life.

This includes if you have a medical condition or disability or have responsibilities for caring for a family member in a similar situation. It might also include ensuring you can continue to observe any cultural or religious practices.

Adjusting to academic life

Learning at university can be a bit daunting to begin with, but we've got you covered whatever help you need.

That includes help with preparing assignments, help with researching or referencing, help with online study and loads more. You can even get a peer leader in your first semester!

Free counselling service

If you need to discuss any personal issues that may be affecting your ability to study, we have a free, professional and confidential counselling service.

Career advice and job skills

You can get support and resources to help you plan your future career, as well as find work or volunteering experience while you're a student.

This includes career-based workshops, industry events, one-to-one career advice and more.

Student health services

All ECU campuses have health centres with doctors (GPs), nurses and allied health services to assist you if you need them.

Sport and fitness

Staying active can help sharpen your mind and reduce the stress of assignments and exams.

ECU has fantastic sport and fitness facilities, designed to support your health and wellbeing. You can also join group fitness classes tailored for everyone, or drop into fun social sports and competitive representative events.

Childcare for parents

If you're a student with children, our campuses provide short term care (Crèche) and long term care (Day Care) at select locations.

Wellbeing and mental health

The Living Room is a safe and inclusive space where you can drop in to have a relaxed chat with a trained peer who understands the journey you are going on as a student.

Do you identify as an Aboriginal or Torres Strait Islander?

If that's your background and you'd like assistance with choosing a university entry pathway, please let us know.

Our team at the Centre for Indigenous Australian Education and Research, called Kurongkurl Katitjin, can also help you better understand and adapt to university life.

And we provide services on campus like:

- Nala Karla Student Rooms and facilities
- Tutorial Assistance
- Elder-in-Residence Program

Find out more — **ecu.edu.au/indigenous**

Travel overseas while you study

University study is way more than lectures, reading and assignments. As a student, you might also have opportunities to travel overseas as part of your studies, where you can immerse yourself in a new culture and develop lasting friendships.

Not only will this look good on your résumé, but it's also an excellent opportunity for you to challenge yourself and broaden your horizons.

Student exchange

This is a program where you apply to study units related to your university course for one or two semesters in another country.

ECU has partnerships with 90 institutions in 35 countries around the world, so there's plenty to choose from.

Go on a study tour

Overseas study tours are possible during your time at ECU, and they usually run for one to two weeks.

You'll join a group of classmates and learn in another country, while developing your cultural communication skills. And having fun!

Careers in Engineering

Engineering is a wonderful profession for creative thinkers who have an analytical mind and the desire to apply science and technology to develop solutions, systems and infrastructure to serve the changing needs of the global community. Engineers are highly sought after globally for their unique problem-solving skills, and they enjoy a professional career that is highly rewarding.

The School of Engineering at ECU is recognised internationally for its excellent quality of education and research, underpinned by highly committed and supportive academics and outstanding infrastructure and facilities. We teach the next generation of engineers to reflect on environmental considerations in their design and development practices, and endeavour to harmonise the natural and built environments such that we can sustain and improve our world for future generations.

Introducing Professor Paulo de Souza, Executive Dean of the School of Engineering

A disrupter and transformational advocate for impactful research outcomes and real-world educational delivery, Paulo has spent the last two decades bridging science, industry and society, with the application of engineering to solve unique problems: spanning the critical struggle of our fragile ecosystems, improving industrial processes to the discovery of habitable environments on the surface of Mars. Paulo has transformed industrial, research and academic portfolios under his leadership.

Prior to joining ECU in 2024, Paulo was Dean of Research at Griffith University, Science Director and Chief Research Scientist at CSIRO, Collaborator Scientist with NASA's Mars Exploration Rover Project and worked in consultancy, mining and steelmaking industries in South America and Europe. He co-authored the series of papers identified at the 2004 Breakthrough of the Year by Science Magazine. Paulo is a Fellow of the Australian Computer Society, a Fellow of the Governance Institute of Australia, a Professional Fellow of Engineers Australia, and a member of the ARC College of Experts. Paulo is a Physicist with a Master's degree in mechanical engineering from Federal University of Espirito Santo (Ufes) in Brazil and has a Doctoral degree (Dr rer. nat.) from Johannes Gutenberg Universität in Mainz, Germany.

Why Study Engineering at ECU?

Top in WA for Engineering

In addition to achieving a 5-star rating for undergraduate teaching quality for 18 straight years, ECU consistently receives 5-stars for its student support in the discipline of Engineering (Good Universities Guide 2025).

Wide choice of courses

You can choose from over 20 Engineering and Technology courses across a wide range of traditional and emerging discipline areas.

State-of-the-art facilities

You will study in some of the most advanced engineering labs in Australia to prepare you for your career. Our facilities are equipped with the latest technology, such as large-scale 3D printers, building-scale structural testing equipment, automated manufacturing, smart energy systems and much more! We invite you to attend one of our information sessions and annual Open Day to experience the facilities first-hand.

Industry connections

Our courses, which are developed in close consultation with industry, give you opportunities to engage with industry-based projects throughout your studies. Our current partners include South32, GHD, Schneider Electric, Konica Minolta, Markforged and Magellan Power.

Professional and global recognition

Most of our Bachelor of Engineering Honours and Master of Engineering courses are professionally accredited by Engineers Australia and recognised under the Washington Global Accord, so you can work around the world.

Join an engineering student club

Expand your horizons and develop your leadership and team player skills by joining one of our many dynamic engineering clubs for aviators, robotics, motorsports, electronics and women in engineering.

Range of pathways to Engineering at ECU

At ECU, we welcome anyone with the capability and aspiration to study engineering. If you don't meet the entrance requirements for the Bachelor of Engineering Honours, you may be able to enrol in one of our Bachelor of Technology courses. If you successfully complete your first year of studies, you can then apply for a transfer to a Bachelor of Engineering Honours course. You'll also be granted advanced standing (credit) for applicable units you've already completed.

ATAR 70+ | **Experience-based entry** | **University preparation entry**

Bachelor of Technology
1 YEAR

+

Bachelor of Engineering Honours
3-3.5 YEARS

OR

Bachelor of Technology (Engineering)
3 YEARS TO BECOME AN ENGINEERING TECHNOLOGIST

ATAR 80+ or equivalent

- Mathematics: Methods ATAR
- Physics ATAR or Engineering Studies ATAR or Chemistry ATAR or Mathematics Specialist ATAR

Bachelor of Engineering Honours
4 YEARS

Why staying curious is great advice for any career

The ability to persist through setbacks, adapt strategies and analyse problems from various angles has proven invaluable to Akshat in his engineering career.

Akshat Sharma
ECU Computer Systems Engineering graduate and Application Engineer

Scan QR to read more

Secure an Engineering scholarship and enjoy a range of benefits

The School of Engineering offers two scholarships specifically for school leavers wishing to study one of our Engineering Bachelor's degree courses:

- **Executive Dean Elite Engineering Scholarship**
- **ECU Engineering Excellence Scholarships**

About ECU's Executive Dean Elite Engineering Scholarship

Do you excel academically, display leadership and are considered a great role model for students and others in your community? If so, we'd like to hear from you! This scholarship offers the following benefits:

- 100% of your course tuition fees covered for the duration of your Bachelor's degree
- Mentorship opportunities with the Executive Dean, School of Engineering
- Exclusive networking opportunities with industry.

For the full list of benefits and terms and conditions, including eligibility criteria visit — **ecu.edu.au/elite-engineer**

About ECU's Engineering Excellence Scholarship

If you're a high performing Year 12 student studying the minimum prerequisites (Maths Methods and Physics or Engineering Studies or Chemistry of Maths Specialist) and you're on target to achieve an ATAR of 94 or above, this scholarship will support your studies in one of our Bachelor of Engineering (Honours) courses. If you're successful, you will receive $20,000 paid as $5000 per year over four years or pro-rata once you are enrolled.

For full terms and conditions, visit — **ecu.edu.au/scholarships/engineering-excellence**

Giving you an early taste

We believe the sooner you start working in the field you've chosen, the better prepared you'll be when you graduate – even if you decide that field isn't for you!

So as an engineering student you'll have a work experience placement of up to 12 weeks in the engineering industry to test your practical skills and what you've learned in classes. This is normally undertaken during a vacation period, or even as part of some earlier eligible work experience you may have had. Our students find placements in a broad range of small to large organisations such as Main Roads WA, Synergy, Fortescue and Water Corporation WA.

You'll also have loads of hands-on experience in our state-of-the-art laboratories during your studies. So when you graduate, you'll be familiar with industry-grade equipment and the latest technology.

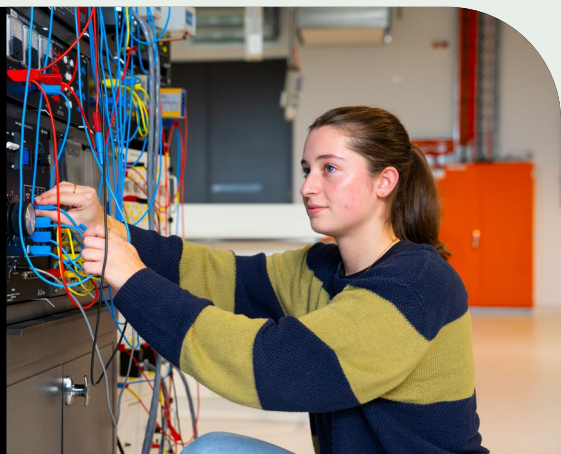
Get career ready while you study

ECU's Get Career Ready program works with you from your first year until the end of your final year. It builds up your skills in areas like interviewing, leadership, application writing and job search.

The program also offers experiences to help you build your personal brand, like volunteering opportunities and casual or vacation employment. You'll also meet potential employers through ECU events like the annual School of Engineering Careers Fair.

Professor de Souza introduces the new Executive Dean Elite Engineering Scholarship. Find out how you could benefit.

Find out more



What kind of Engineer will you be?

Chemical Engineer

Production of pharmaceuticals, polymers and other chemicals; oil and gas refining; mineral processing; food and wine production; industrial process design; environmental protection.

Civil Engineer

Design and construction of roads, buildings and bridges; design of water supply and water management systems; development of harbours and railways.

Computer Systems Engineer

Design of computer and digital systems; embedded systems development; hardware/ software integration; robotic and intelligent system implementation.

Electrical Engineer

Design, development and maintenance of systems for power generation and distribution; renewable energy systems planning; design and commissioning of electrical plants for mining or industry.

Energy Engineer

Energy transition from conventional to renewable resources, hydrogen and alternative sources, hydrogen storage and subsurface energy systems, sustainable fuels, energy storage systems and battery technologies. decarbonisation through CO_2 storage and converting into useful chemicals.

Instrumentation Control and Automation Engineer

Automation of mining and mineral processing operations; development of automated manufacturing systems; process control for industrial production facilities.

Maritime Engineer

Design and commission oil and gas rigs, ports and harbours; specialise in marine system design, operation, and costal engineering, naval architecture, and developing offshore renewable energy infrastructure.

Mechanical Engineer

Design, optimisation and maintenance of mechanical systems; advanced and additive manufacturing engineering; development of systems for materials handling and mineral processing; air handling, air-conditioning and refrigeration systems design; sustainable power generation and storage.

Mechatronics Engineer

Automation of industrial systems; design and development of robotic and smart mechanical systems; advanced and intelligent manufacturing; industrial process control.

Motorsports Engineer

Design and development of high-performance vehicles; automotive and manufacturing engineering; engine and vehicle system optimisation; motorsports team management.

Robotics Engineer

Development of advanced autonomous systems for remote inspection, maintenance or surveying tasks, for advanced industrial automation, for smart agriculture, and for many other emerging applications.

ECU's Engineering Courses

All of our Bachelor of Engineering courses have a common set of eight units in the first year. This allows you to develop a deeper understanding of the engineering disciplines we offer and future areas of work. It also gives you the flexibility to switch to another ECU engineering course if this is what you decide after your first year.

Our Bachelor of Engineering Honours courses are accredited by Engineers Australia and require you to have an indicative ATAR of at least 80. All professionally accredited courses display this icon.

You can still pursue engineering studies if your ATAR is 70 or above by starting with a Bachelor of Technology course.

All Bachelor of Engineering (Hons) courses have the following admission requirements, unless indicated otherwise in the course description:

Required ATAR subject(s):
Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist.

Desirable ATAR subject(s):
Physics or Engineering Studies.

Note: Where indicated as desirable, students without Chemistry, Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Bachelor of Engineering (Chemical) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Chemistry plus either Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Chemistry, Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

The chemical engineering discipline is mostly about understanding how materials and chemicals interact or can be converted in some way to a more useful form, as part of a processing, production or refining process.

As a Chemical Engineer, you'll work in a range of industries, from mineral processing, mining, and oil and gas, to clothing, food, packaging, fertilisers, pharmaceuticals and many other manufacturing and biological processes. In this course, you'll gain strong analytical skills and the ability to lead complex projects, along with many other transferable skills.

Career Opportunities

In Western Australia, many chemical engineers find career opportunities in the extensive mining, mineral processing, and oil and gas industries, which dominate the industrial profile of the state. Chemical engineers play a central role in both the production, refining and downstream processing in these important resource-based industries.

There is currently a shortage of Chemical Engineers in Western Australia. This profession is on the 2024 Occupation Shortage List published by Jobs and Skills Australia.

Source: jobsandskills.gov.au November 2024

See more course information — **ecu.edu.au/courses/Y50**

Bachelor of Engineering (Civil) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

Civil engineers design, construct and maintain the human-made environment, including buildings, roads, bridges, tunnels, dams and other large physical structures.

In this course you'll learn skills in core civil engineering subjects, including surveying, soil mechanics, engineering geology, structural analysis and design, hydrology, and transportation engineering, as well as construction technology and site management.

You'll also gain strong analytical skills and the ability to lead complex projects, along with many other transferable skills.

Career Opportunities

Graduates will have competencies in all major areas of civil engineering, and be able to participate in, and lead, complex, multidisciplinary projects. Civil engineers have strong employment opportunities in many sectors of industry, including road and transport, construction, mining and resources, public utilities, defence, and consulting.

There is currently a shortage of Civil Engineers in Australia. This profession is on the 2024 Occupation Shortage List published by Jobs and Skills Australia.

Source: jobsandskills.gov.au November 2024

See more course information — **ecu.edu.au/courses/Y13**

Bachelor of Engineering (Civil and Environmental) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

This course includes studies in civil engineering with a secondary focus on managing environmental challenges and finding long-term sustainable engineering design solutions.

Engineering projects that may impact on the quality of land, water and air, require detailed environmental analysis to identify and mitigate any chances that the project will adversely affect the environment.

So you'll undertake advanced studies in environmental risk assessment and management, water and wastewater treatment, water distribution systems and wastewater collection systems, waste disposal and management, and air-borne pollution control.

The course also includes strong elements of practical problem-solving, teamwork and project development and gives you the ability to lead complex projects.

Career Opportunities

Graduates will have competencies in both civil and environmental engineering, and be able to participate in, and lead, complex, multidisciplinary projects. Civil and environmental engineers have strong employment opportunities in many sectors of industry, including infrastructure development projects (roads and transportation, urban development), public utilities (water supply, waste disposal), mining (planning and operations), and consulting (project management).

See more course information — **ecu.edu.au/courses/Y28**

"I gained a skill set that I'll use for the rest of my life."

Breanna Cameron
ECU Civil and Environmental Engineering graduate and Director/Co-Founder of JUDDRILL

Bachelor of Engineering (Computer Systems) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

In computer systems engineering you need to have an in-depth knowledge of digital and analogue electronic systems plus a detailed understanding of computer architecture, software design and hardware-software interfacing.

In this course you'll learn everything about computing – from the development and application of individual microprocessors to the design of personal, mainframe or supercomputer systems, as well as real-time and embedded systems implementation, robotics, and software engineering.

As a graduate you'll have multiple technical and transferable skills, including strong analytical skills, and be able to lead complex projects.

Career Opportunities

Employment opportunities include the development and design of microcomputer systems, computer networks, complex real-time systems, high-performance processors, multimedia systems, and control and automation.

See more course information – **ecu.edu.au/courses/Y47**

"After the first year, I realised there were so many opportunities to grow, learn and get involved."

Helia Moayedi
ECU Computer Systems Engineering graduate

Bachelor of Engineering (Electrical Power) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

Electrical power engineering is all about electrical power generation, transmission and distribution.

In this course you'll learn the core electrical and electronic subjects, leading to more in-depth studies of power systems including generation, transmission and protection, as well as power electronics, electromechanical systems, industrial control, and renewable energy.

You'll also develop your practical problem solving, teamwork, project development and analytical skills, and be able to lead all kinds of complex projects.

Career Opportunities

Electrical power engineers have diverse employment opportunities in most sectors of industry, including public utilities, renewable energy, mining and resources, manufacturing, defence, aerospace, chemical and pharmaceutical, and consulting.

See more course information — **ecu.edu.au/courses/Y49**

Bachelor of Engineering (Electrical and Renewable Energy) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

Electrical and renewable energy engineering is a specialisation within electrical engineering relating to the generation of electrical power from a wide range of sources, with a focus on renewable energy, such as solar, wind, hydro, biomass and geothermal.

In this course you'll develop strong competencies in the fundamentals of electrical engineering with an emphasis on the utilisation, generation, management and design of renewable energy resources and systems and their integration into hybrid energy supply and distribution networks.

You'll also develop your practical problem solving, teamwork, project development and analytical skills, and be able to lead all kinds of complex projects.

Career Opportunities

Electrical and renewable energy engineers have a wide range of employment opportunities across the energy generation, conversion, distribution and management sectors, including power utilities, the mining industry, larger manufacturing businesses as well as the domestic markets, where renewable energy systems are now quite common.

See more course information — **ecu.edu.au/courses/W21**

Bachelor of Engineering (Electronics and Communications) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

This course combines the fundamental engineering disciplines of electronic and communication systems. So you'll develop skills in all aspects of analogue and digital circuit design, as well as communication systems and communications networks development.

The course concentrates on the engineering principles required to analyse and solve problems related to the design and implementation of electronic and communication systems.

It covers fundamental engineering sciences, as well as electronic circuits and systems, digital signal processing, radio communications, fibre optic and microwave communications, computer networking, and cellular and wireless networks.

You'll also develop your practical problem solving, teamwork, project development and analytical skills, and be able to lead all kinds of complex projects.

Career Opportunities

Employment opportunities exist in most sectors of industry, including communication and telecommunication, product development, fabrication, public utilities, mining and resources, defence, aerospace, and consulting.

There is currently a shortage of Electronics Engineers in Western Australia. This profession is on the 2024 Occupation Shortage List published by Jobs and Skills Australia.

Source: jobsandskills.gov.au November 2024

See more course information — **ecu.edu.au/courses/Y51**

Bachelor of Engineering (Energy) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

To tackle global climate change, our energy sources are changing. And, as we transition away from fossil fuels to cleaner, more sustainable energy, there is a growing demand for skilled engineers who can facilitate these changes.

This course provides essential knowledge for navigating the transition from fossil fuels to renewable energy sources. You'll gain a solid foundation in renewable energy, energy storage, and large-scale CO_2 sequestration, and subsurface storage of hydrogen.

You'll also develop knowledge and skills for professional engineering practice, as well as a strong focus on practical problem solving, teamwork and project leadership.

Career Opportunities

The energy industry is in the transitional phase moving away from fossil fuels towards wider adoption of cleaner and more sustainable energy sources. Therefore, there will be a rising demand for new graduates to have the relevant skills to enable this transition. This provides opportunities for students to secure work placements thus leading to graduate positions in the energy industry.

Professional Recognition

The Bachelor of Engineering (Energy) Honours is Provisionally accredited by Engineers Australia.
This program is not recognised under the International Accord agreement until Full Accreditation is accorded.

See more course information — **ecu.edu.au/courses/V32**

Bachelor of Engineering (Instrumentation Control and Automation) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

Instrumentation control and automation engineering is the integration of electrical, electronic and computing engineering with control engineering.

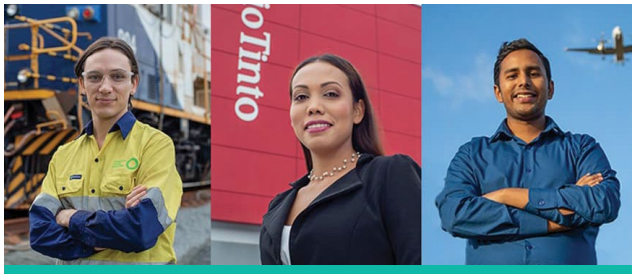
It includes the development of intelligent systems to automate monitoring, processing and production in different engineering industries. The course gives you a strong background to enter a range of career pathways in the mining and mineral processing, oil and gas, and agriculture industries, key to the economy of Western Australia.

When you graduate from the course, you'll not only understand electrical and electronic engineering, but you'll also have specialist skills in design, development and management of advanced control and automation systems and the ability to participate in and lead, complex multidisciplinary projects.

Career Opportunities

Instrumentation control and automation engineers have diverse employment opportunities in most sectors of industry, including product design and development, manufacturing, mining and resources, agriculture, public utilities, road and transport, defence, aerospace, chemical, pharmaceutical, and consulting.

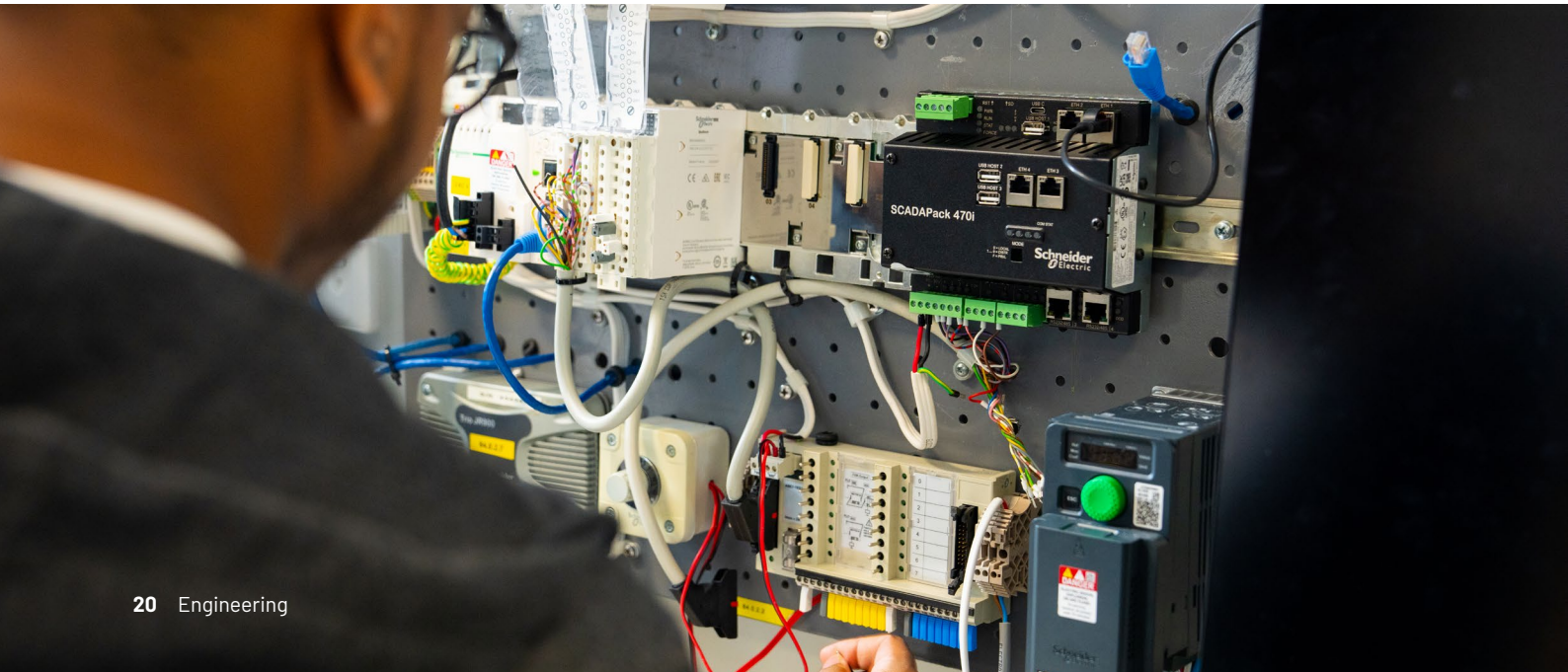
See more course information – **ecu.edu.au/courses/Y46**



How three young engineers built their careers

Different backgrounds, different courses, but the same industry-applied learning, world-class facilities and dedicated support to help them build a foundation for the future.

Scan QR to read more



Bachelor of Maritime Engineering (Specialisation) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Years 1 & 2 Joondalup
Years 3 & 4 Australian Maritime College, Launceston

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

This specialist engineering course is offered in collaboration with the Australian Maritime College at the University of Tasmania in Launceston, Tasmania and is an ideal entry into a career in the maritime industry.

You'll focus on one of two maritime industry specialisations:

- Naval Architecture
- Ocean Engineering

Naval architects design and oversee the construction and repair of marine craft and offshore structures. Ocean engineers design offshore structures such as oil and gas platforms or subsea pipelines, as well as ports and harbour facilities and the submersible vehicles required to service them.

Career Opportunities

Graduates of this course will have the capability to work in many areas in the maritime industry.

Ocean engineers have strong employment opportunities in many sectors of industry, including oil and gas, alternative energy, coastal engineering, underwater vehicles, port and harbour design, defence, and consulting. Graduates can also apply for any suitable position open to structural engineers.

Naval architects are in demand in companies that design and build leisure craft, and sailing and power yachts. Many of the vessels of the Royal Australian Navy deployed in the defence of the nation have been built in Australian yards with considerable Australian design input. These include patrol boats, mine hunters, frigates and submarines. Naval architects also have career opportunities in other sectors of the marine industry, including oil and gas, marine surveying, and consulting.

See more course information — **ecu.edu.au/courses/W91**

Bachelor of Engineering (Mechanical) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

Mechanical engineering deals with the design, manufacture, maintenance, operation and analysis of mechanical systems. Such systems can feature in centralised as well as stand-alone power generation, air conditioning, waste heat recovery, materials handling, traditional and additive manufacture processes as well as automotive engineering.

If you take this course, you also have the option to study a specialist stream in motorsports, focussing on automotive design and motorsports engineering.

You'll also develop your practical problem solving, teamwork, project development and analytical skills, and be able to lead all kinds of complex projects.

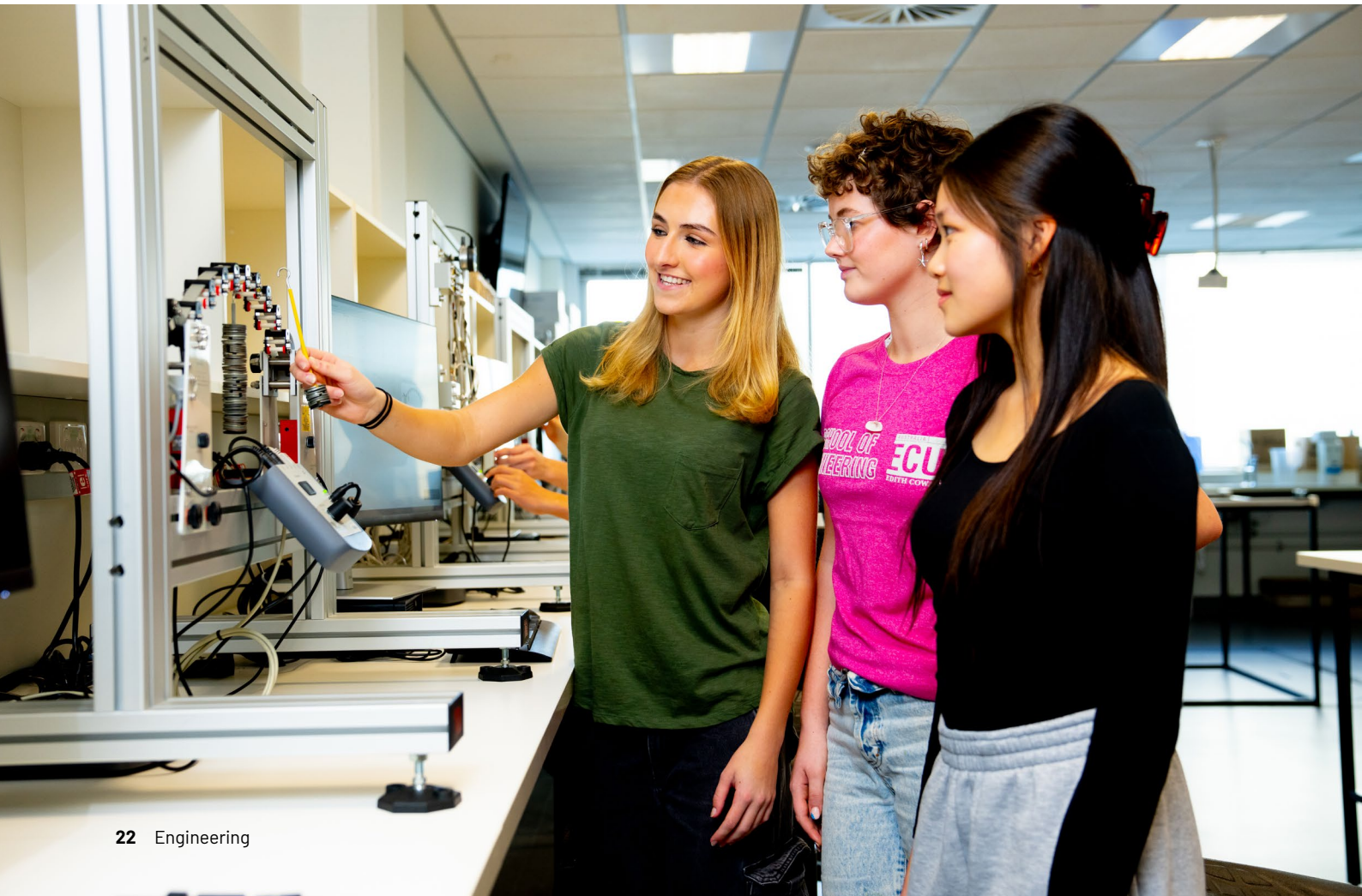
Career Opportunities

Mechanical engineers have diverse employment opportunities in most sectors of industry, including product design and development, manufacturing, road and transport, mining and resources, public utilities, agriculture, defence, aerospace, and consulting.

There is currently a shortage of Mechanical Engineers in Australia. This profession is on the 2024 Occupation Shortage List published by Jobs and Skills Australia.

Source: jobsandskills.gov.au November 2024

See more course information — **ecu.edu.au/courses/Y45**



Bachelor of Engineering (Mechatronics) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Overview

Mechatronics engineering is a multidisciplinary program, where mechanical and electrical/electronic engineering is combined to develop intelligent machines and advanced manufacturing and processing systems.

This course is specifically tailored to Australia's resource-based and service industries and covers the themes of automation, instrumentation, digital electronics, manufacturing, mechanical design, fluid mechanics and control systems.

You'll study engineering mechanics, computer-aided design and manufacturing, analogue and digital electronics, signal analysis, electromechanical systems, industrial control, and robotics.

You'll also develop your practical problem solving, teamwork, project development and analytical skills, and be able to lead all kinds of complex projects.

Career Opportunities

Mechatronics engineers have diverse employment opportunities in most sectors of industry, including product design and development, manufacturing, mining and resources, process control and automation, public utilities, road and transport, defence, aerospace, and consulting.

See more course information — **ecu.edu.au/courses/Y44**

"ECU's immersive labs allowed me to practice my theoretical knowledge using state-of-the-art equipment. These experiences not only enriched my academic journey but also prepared me for future challenges in my profession as a mechatronics engineer."

Ryan Bradley
ECU Mechatronics Engineering graduate

Bachelor of Engineering (Robotics and Autonomous Systems) Honours

Indicative ATAR: 80

Required ATAR subject(s): Mathematics Methods and any one of Physics or Chemistry or Engineering Studies or Mathematics Specialist

Desirable ATAR subject(s): Physics or Engineering Studies

Minimum Duration: 4 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Physics or Engineering Studies ATAR may need to take a bridging unit in the first year of their studies.

Overview

As a graduate of this course, you'll be conversant in the fundamental physical sciences, digital electronics, intelligent systems, computer-aided design and manufacturing, dynamic systems and controls, embedded and cyber-physical systems, robotics and advanced software development and machine learning.

Career Opportunities

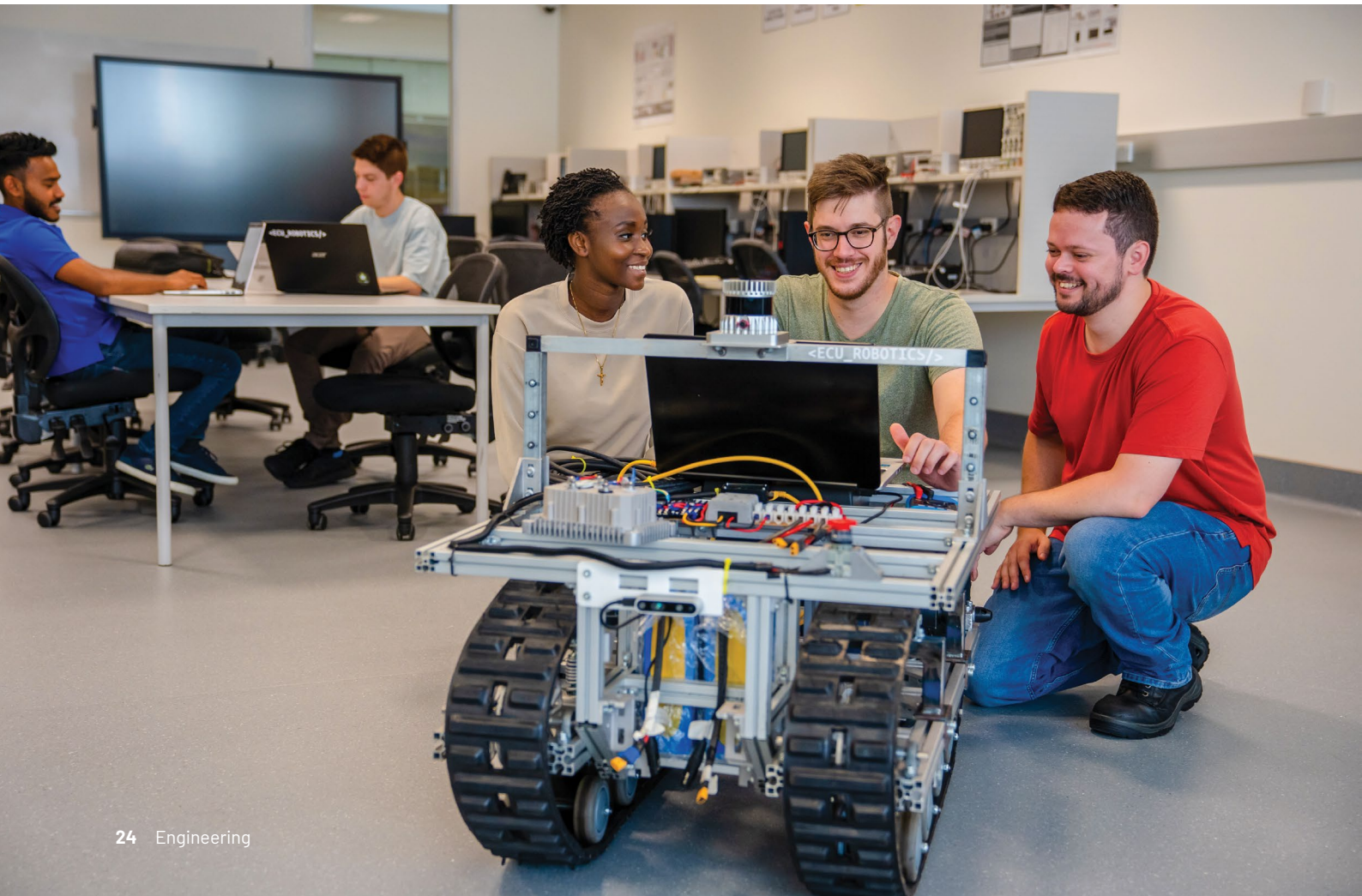
The demand for robotics engineers is growing rapidly in Western Australia, with increasing interest in using autonomous systems for inspection, maintenance and other tasks in remote sites within the resources and agricultural sectors.

Global demand is also high, as companies look to AI and robotics to enhance efficiencies and improve competitiveness.

Professional Recognition

The Bachelor of Engineering (Robotics and Autonomous Systems) Honours is Provisionally accredited by Engineers Australia. This program is not recognised under the International Accord agreement until Full Accreditation is accorded.

See more course information – **ecu.edu.au/courses/C87**



Bachelor of Technology (Engineering)

Indicative ATAR: 70

Desirable ATAR subject(s): Mathematics Methods

Minimum Duration: 3 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without Mathematics Methods ATAR may take a bridging unit in the first year of their studies.

Overview

If you don't meet the entry requirements for one of our Bachelor of Engineering Honours courses, but you still want to work in the world of engineering, this course is your pathway. In your second year you'll choose from one of six engineering majors. Starting this course can also be used as a pathway to the Bachelor of Engineering Honours courses. See the pathway on page 9.

Majors you can study in this course

- Chemical
- Civil
- Electrical
- Electronics & Communications
- Electronics & Computer Systems
- Mechanical

Career Opportunities

Graduates of the course will find employment opportunities in engineering and technology-related industries in such roles as an Engineering Technologist or Engineering Technician.

See more course information – **ecu.edu.au/courses/Y62**

Bachelor of Technology (Motorsports)

Indicative ATAR: 70

Desirable ATAR subject(s): Mathematics Methods and Physics or Engineering Studies

Minimum Duration: 3 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without the desired ATAR subjects may complete bridging units in the first year of their studies.

"ECU's industry connections helped launch my career as an engineer."

Liam Lewis
ECU Motorsports/Mechanical Engineering graduate

Overview

Our Motorsports course is really popular, and not just because you could join the team that builds an actual race car! Here, you'll gain a solid understanding of the design, simulation and fabrication processes, as well as the management issues associated with production of complex automotive systems and the motorsports industry in general.

Career Opportunities

As well as employment in the motorsports industry, graduates also have broader employment opportunities in product design and development, manufacturing, maintenance and project management.

See more course information – **ecu.edu.au/courses/G68**

ECU Racing wins at Silverstone, UK

Racers from ECU outperformed 55 other Universities from across Europe to take the top spot at Formula Student 2024, in the UK. The ECU Racing team finished 200 points ahead of their nearest competitor at the five-day event. In addition to the overall win, the team also brought home the coveted Engineering Design trophy to add to its Sprint and Endurance wins from the on-track events. The ECU Racing car features an innovative rear suspension system that is entirely new to the competition. Combined with an efficient aerodynamics package and lightweight composite construction, the vehicle is especially nimble. A small efficient Yamaha engine, tuned by the students, meant that fuel use was low. This allowed the team not only to place highly in the acceleration event, but also claim the prize for the most fuel-efficient vehicle in the competition.

Read more

Bachelor of Technology (Aeronautical)

Indicative ATAR: 70

Desirable ATAR subject(s): Mathematics Methods and Physics or Engineering Studies

Minimum Duration: 3 years

Location: Joondalup

Study Mode: Full-time, Part-time

Note: Students without the desired ATAR subjects may complete bridging units in the first year of their studies.

Overview

This course is intended for students with an interest in aviation, aeronautics and flying, who wish to have the option of expanding their studies towards becoming accredited professionals in an engineering field. The only course of its kind in Western Australia, aeronautical technology deals with the science and technology of aviation, including aircraft systems, materials and manufacturing technology.

Provided appropriate electives are chosen, graduates of this course can apply to articulate into ECU's Master of Engineering course, specialising in Mechanical Engineering.

See more course information – **ecu.edu.au/courses/Y73**

Diploma in Aviation

Indicative ATAR: Not Applicable

Minimum Duration: 1 year

Location: Joondalup

Study Mode: Full-time, Part-time

Overview

Working in aviation but looking to upgrade your skills and knowledge? This on-campus course that is supported through extensive online resources not only does that, but it also gives you a pathway into a full degree program. Among other things, you'll study the fundamentals of flight, aircraft performance and human factors in aviation.

Career Opportunities

This course prepares graduates for a range of careers within the aviation industry such as airline operations or aviation management, and also provides relevant complementary education for those who wish to pursue or further a career as an airline pilot. Examples of operational roles include Aviation Operations Controller, Load Controller and Air Traffic Controller.

See more course information – **ecu.edu.au/courses/W88**

Bachelor of Aviation

Indicative ATAR: 70
Minimum Duration: 3 years
Location: Joondalup
Study Mode: Full-time, Part-time

Overview

This course provides a focussed, professional education and graduate status for those seeking to enter the aviation industry. The course is technically oriented, covering a good breadth of the underlying science and technology related to aircraft systems, in addition to a range of more general content areas related to the aviation industry.

Career Opportunities

This course prepares graduates for a range of careers within the aviation industry such as airline operations or aviation management, and provides relevant complementary education for those who wish to pursue a career as an airline pilot. Additionally, a suitable choice of elective units will lead to wider employment opportunities within the aviation industry, as well as in other areas.

See more course information — **ecu.edu.au/courses/K99**

"The aviation course at ECU delivers content based on current industry best practices."

Paul Solomon
ECU Aviation graduate and Safety, Quality and Training Coordinator at Virgin Australia

Double down on your career

Having a university double degree is like creating your own brand.

Studying one of these Engineers Australia accredited double degrees is a great way of keeping your options open and can demonstrate a higher level of expertise to future employers.

A double degree also gives you the flexibility to tailor your study and create your own niche. It's a kind of employability superpower.

Bachelor of Engineering (Computer Systems) Honours/ Bachelor of Computer Science

Indicative ATAR: 80

Minimum Duration: 5 years

Location: Joondalup

Study Mode: Full-time, Part-time

If computer systems are your thing, this course will make you doubly happy! And because there's a demand in high-tech industries for engineers with skills in project management, system architecture and software development, and hardware and software engineering, this could be your ticket.

See more course information — **ecu.edu.au/courses/Y64**

Bachelor of Engineering Honours/Bachelor of Commerce

Indicative ATAR: 80

Minimum Duration: 5 years

Anticipated Location: Joondalup, City (Commerce component)

Study Mode: Full-time, Part-time

Want to be an engineer, but also have designs on a business career? The good news is there's a growing demand in high-tech industries and research centres for engineers who also have knowledge and professional skills in business, management and finance. It's a career win-win.

See more course information — **ecu.edu.au/courses/W26**

Bachelor of Engineering (Mechatronics) Honours/Bachelor of Technology (Motorsports)

Indicative ATAR: 80

Minimum Duration: 5 years

Location: Joondalup

Study Mode: Full-time, Part-time

If you're looking for something that will really rev up your career, make a pit stop and check out this double degree. As you probably guessed, mechatronics blends electronics with mechanical engineering. It's about developing intelligent machines and advanced manufacturing and processing systems. And you get to focus on motorsports.

See more course information — **ecu.edu.au/courses/Y75**

Bachelor of Engineering Honours/Bachelor of Science

Indicative ATAR: 80

Minimum Duration: 5 years

Location: Joondalup

Study Mode: Full-time, Part-time

Want to be an engineer with a difference? This double degree has so much flexibility, you could be anything you want. That's because you can choose from 9 different science majors and 8 engineering ones. Mix and match subjects to personalise a course to suit your career aspirations.

See more course information — **ecu.edu.au/courses/W32**

Postgraduate Study

The School of Engineering also offers postgraduate courses, where a strong industry focus enriches teaching, learning and research outcomes.

Master of Technology

This coursework degree offers a postgraduate pathway to an engineering qualification at the technologist grade for applicants with a non-engineering or non-technology first degree who wish to transition to an engineering career path. As a graduate of this course, you will be able to seek engineering technologist roles in industry, or will be able to upgrade to an accredited professional engineering qualification by articulating into the Master of Engineering.

The following specialisations are available:

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

See more course information – **ecu.edu.au/courses/T59**

Master of Engineering

This degree is for those who have a non-professionally accredited engineering or technology degree and wish to upgrade to a professionally accredited engineering qualification, or wish to branch out into another area of specialisation.

The following specialisations are available:

- Chemical Engineering
- Civil Engineering
- Civil with Environmental Engineering
- Computer Systems Engineering
- Electrical and Renewable Energy Engineering
- Electrical Power Engineering
- Electronics and Communications Engineering
- Instrumentation Control and Automation Engineering
- Mechanical Engineering
- Mechatronics Engineering

See more course information – **ecu.edu.au/courses/I59**

Research

The School of Engineering has an outward looking research and development perspective. We endeavour to proactively identify and develop innovative solutions to real-world engineering problems, particularly those relevant to Australian industry and the community. Our research focuses on three main themes in the main disciplines of Chemical, Civil, Electrical and Mechanical engineering:

- Energy, resources and the environment
- Communication, monitoring and control
- Materials, manufacturing and infrastructure

What pathway can you take?

If you don't have an ATAR, or you do but got a lower ATAR than expected, you still have pathway options into university courses.

For some of these pathways, you may need to have completed WACE or meet English competency requirements.

University Preparation pathway*

Our free UniPrep course is recommended for students who didn't get the ATAR result they were hoping for, or don't have an ATAR. This short enabling course is even available over the summer break, from November to January, in time to start uni in Semester 1.

Find out more — **ecu.edu.au/uniprep**

Experience Based Entry pathway

This pathway allows school leavers and other applicants to be considered for entry to an undergraduate course by providing a portfolio of evidence that proves your ability to succeed in higher education.

Find out more — **ecu.edu.au/experience**

VET pathway

If you've completed or started a VET course at a TAFE or another training organisation, this pathway is for you. A completed Cert IV or higher might make you eligible to go straight into an undergraduate course.

Find out more — **ecu.edu.au/pathways**

What are you studying this year?

4+ ATAR subjects

ATAR pathway

Apply for an ECU undergraduate course

3+ ATAR subjects & 1 general subject

Experience Based Entry pathway

Apply for an ECU undergraduate course

Certificate IV/ Diploma

VET pathway

Apply for an ECU course

General subjects only

UniPrep pathway

Apply for one of ECU's UniPrep courses

Notes

1. All Year 12 students applying for ECU courses need to apply via TISC, meet English competency requirements and achieve WACE.
2. Depending on your current school, you may qualify for an adjustment to your ATAR (higher). Ask us about this.

* This pathway also applies to Year 12 students completing a recognised university enabling program that leads straight into an undergraduate course.

How to apply

Application options can vary, depending upon your situation and your chosen pathway.

Australian universities have 4 standard categories that cover student applications. These are:

- Recent secondary education (typically most school leavers)
- Work and life experience (people who left secondary education 2+ years ago, haven't studied a VET course and have professional or work experience)
- Vocational education and training (VET) – includes TAFE students and other VET providers
- Higher education student (people who may have studied a higher ed course or completed a bridging or enabling course)

We won't try to explain these here, but we suggest you visit our Applying page and see which category is your best fit. The page also details your different entry requirements and options.

If you're ready to apply now, don't forget to have scanned copies of qualifications, your résumé or other required paperwork, ready to upload.

Find out more – **ecu.edu.au/apply**

Become an ECU student in 6 steps

1 **Choose your course**
Consider having a back-up course in case you've applied for a popular course, and it's oversubscribed. You can apply for up to 3 courses at once.

2 **Check course entry requirements**
Some courses have special admission or 'inherent' requirements so check these too.

3 **Check the application date**
Don't miss the deadline for your chosen course(s).

4 **Apply for a scholarship**
These are awarded to all kinds of people, not just high achievers. You can do this when you apply for a course.

5 **Have your paperwork ready and go online**
You'll need scanned copies of other qualifications, your résumé or other required paperwork ready to upload.

6 **Accept your offer**
If you're successful, we'll send you an offer of a place. We hope you accept it and become an ECU student!

If you'd rather talk to us about applying for courses, we'd love to hear from you.

Call 134 328 or drop into your nearest ECU campus.

It all started with Edith Cowan

The Edith Cowan story holds a special place not just at ECU, but in Australian history.

She influenced the course of education in Australia, paving the way for many people to access education they could previously only dream of.

It's why we didn't just take Edith's name. We embraced everything she stood for.

Before she became the first woman elected to an Australian Parliament, everyone told her it would be a tough nut to crack. So she celebrated by giving her fellow members a gumnut brooch, known today as the 'tough nut'.

We love this story so much, we've included the gum leaf as part of our new logo. It is our pledge to carry on her beliefs and continue to transform the way we learn.

Creative thinkers made here.

At a glance

FSC
www.fsc.org
MIX
Paper | Supporting responsible forestry
FSC® C113956

Greening ECU

Edith Cowan University is committed to reducing the environmental impact associated with its operations by conducting its activities in a socially and environmentally responsible manner. This includes implementing strategies and technologies that minimise waste of resources and demonstrate environmentally sensitive development, innovation and continuous improvement.

Disclaimer

Creative thinkers made here.

EDITH COWAN UNIVERSITY

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134 328

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Australian University