



MONASH
University

ENGINEERING

UNDERGRADUATE
COURSE GUIDE
2023



MONASH ENGINEERS DESIGN THE FUTURE

Become part of a world-class team of engineers, driven by the passion and commitment to deliver sustainable solutions for today's global challenges – including climate, energy, transportation, water, health and communications.

Whether you aspire to change the world we live in, become a top CEO or dream of inventing the next big thing, at Monash Engineering you can shoot for the moon.

Kick-start your future at a global top 100 engineering school and graduate ready for a successful career.

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Course information fast facts

Look for these icons on each course page for key information.

-  Location
-  Duration
-  Intakes
-  Requirements*
-  Specialist course

*Entry scores listed in the fast facts section are for domestic students only. For international entry requirements see page 30.



MONASH NOVA ROVER

A team of students from Engineering, Science, Law, Business and Medicine, with a keen interest in space exploration and the design of robotic systems, who put their skills to the test and compete globally.

WORLD RANKINGS

#39
IN THE WORLD
FOR ENGINEERING
AND TECHNOLOGY

QS, World University Rankings by Subject 2022

#54
QS GLOBAL UNIVERSITY
EMPLOYABILITY RANKINGS

2022

TOP 100
IN 12 ENGINEERING
SUBJECTS GLOBALLY

Academic Ranking of World Universities, 2021

A WORLDWIDE UNIVERSITY

9
CAMPUSES IN AUSTRALIA,
CHINA, INDIA, INDONESIA,
ITALY, MALAYSIA

100+
PARTNER UNIVERSITIES
ACROSS THE GLOBE

30K+
ENGINEERING
ALUMNI FROM MORE
THAN 75 COUNTRIES

2021

YOUR PATHWAY TO SUCCESS

Choose Monash Engineering and start engineering a successful future.

1 GET QUALIFIED

Our world class team of engineers will immerse you in engineering from day one. Become a fully accredited professional engineer in this four-year honours degree tailored to your future.

- Double degrees – earn two degrees with only one¹ extra year of study
- Common first year – giving you time to choose a specialisation²
- 10 engineering specialisations plus 10 minor study options
- Scholarships
- Professional accreditation

Find your voice, your squad, and your passion as you explore what's possible through teams, clubs, global exchange and research programs.

- Study abroad at one of our 100+ partner universities
- Join one of the 30+ student teams and clubs
- Mentor programs including peer mentors for all first year students
- Summer Research Program to get a taste for research
- Makerspaces and entrepreneurial programs – a place for innovation

2 FEED YOUR KNOWLEDGE, FUEL YOUR PASSION

Connect to our network of industry partners, alumni and leadership programs to secure your dream career.

- Co-op program – paid internships with industry partners
- Career ready series to help kick start your career
- Connections to our vast alumni network (30K+ across world)
- Monash Industry Team Initiative (MITI) – University-wide industry sponsored projects

3 SECURE YOUR FUTURE

Be part of a global community, contribute to a better future.

change-it.monash.edu

¹ Additional 2.25 years for engineering and laws double degree.
² Biomedical engineering specialisation is selected from the first year

ENGINEER YOUR FUTURE

WHY CHOOSE ENGINEERING AT MONASH

Engineering is a diverse profession with many options. That's why we've created an engineering degree that gives you maximum choice and flexibility.

The common first year

The Bachelor of Engineering (Honours) kicks off with a common first year², where you'll gain a better understanding of scientific and design fundamentals, and the interaction between engineering and society. You'll also get a taste of the ten engineering specialisations on offer before deciding which to pursue from the second year.

Double degrees

Many of our students study a double degree, combining engineering with another discipline area for flexibility and diversity. Whether it's architectural design, arts, biomedical science, commerce, computer science, design, information technology, law, pharmaceutical science or science, Monash allows you to study engineering while pursuing other interests.

Engineering minors

If you study a single degree, complement your specialisation with an engineering minor from a different discipline or emerging field of engineering. Explore your interests and expand your career opportunities.

Scholarships

Monash celebrates academic excellence and supports students who are disadvantaged. We offer a range of scholarships and awards to help ensure money and circumstances aren't barriers to you accessing a world leading engineering education.

For details and a full list of scholarships, bursaries and awards available, visit monash.edu/scholarships

Research experience

You can experience Monash Engineering's renowned research while studying your degree. Participate in innovative, interdisciplinary research through various student teams, such as Monash Motorsport, our undergraduate Summer Research Program, and in your final year project. You'll learn the latest concepts in engineering from lecturers who are leading researchers in their field.

Diversity and inclusion

Engineering is for everyone. Monash Engineering supports diversity and inclusion and provides a safe and supportive environment for all students to achieve their academic goals. Including offering mentoring and outreach programs for Indigenous students and a range of initiatives to empower girls to choose a career in engineering, there's events, mentor programs and a dedicated student team, Female Engineers at Monash (FEM).

Professional recognition

Monash Engineering degrees are accredited by various professional engineering bodies. Recognised by the Washington Accord, our graduates can work in any other signatory country including Canada, China, India, Japan, Singapore, UK and USA, without the need to requalify.

- Engineers Australia
- The Institution of Chemical Engineers (Bachelor of Chemical Engineering (Honours) only)
- Engineering Accreditation Council Malaysia (Malaysian Engineering degrees only)
- Australian Computer Society (Bachelor of Software Engineering (Honours) only).

monash.edu/engineering/professional-accreditation



A CAREER IN ENGINEERING

Engineers are creative, imaginative, analytical and technical, with excellent teamwork skills. As an engineer, you'll apply science and mathematics in a practical way to design and develop new technologies and improve existing ones.

What do engineers do?

Consider a career in engineering if you:

- are curious about how things work
- have an interest in improving the quality of human life
- enjoy designing and building things
- like analysing and solving problems
- are interested in maths and science
- enjoy challenges
- are goal-oriented
- like working with lots of different people in multidisciplinary teams.

Engineers solve problems, figure out how things work and create solutions. They're key to the development of society and solving the challenges faced by our world, such as climate change, natural resource depletion, food shortages, supply of clean drinking water and increased demands on energy. Engineers possess a rare combination of skills and qualities that place them in demand in many industries. An engineer's career is diverse, interesting and can be anywhere in the world.

As a qualified engineer, you'll also be equipped to work in many areas outside of engineering, such as management, banking and consulting. 34 of the top 100 CEOs in the world are engineers[^]. Problem-solving and planning skills, combined with a focus on the future and continuous improvement, make engineers excellent business leaders.

Secure your future

An engineering degree from Monash University gives you a competitive edge. As a Monash Engineering graduate, you'll be a highly sought after industry professional when you first enter the workforce and throughout your career.

Career support

From day one, Monash sets you on the path to future career success. Access a range of programs, support and work-integrated learning experiences. Professional development and industry placements (internships) and multidisciplinary projects with leading companies means you'll graduate better prepared and work-ready.

Our Career Connect program gives you access to experienced coaches and industry based professionals. Take part in employability workshops, small group career conversations and, in your final year, one-on-one coaching.

Unlimited career options

Engineers design, build and test everything we use to create a liveable and sustainable world. Their unique skills are needed in nearly every industry. With hundreds of different types of engineering jobs the possibilities are endless.

Some of our graduates have gone on to successful careers as a:

- Biomaterials or nanotechnology engineer in a medical development company
- Global development engineer for a non-governmental organisation (NGO)
- Chemical process engineer in the food and agriculture industry
- Project manager, consultant or industrial designer in building and construction
- Computer scientist or wireless network engineer in telecommunications
- Artificial Intelligence or software engineer in the defence force
- Capital works engineer in sustainability, water and energy field
- Executive Director of access and operations in a global mining company
- Robotics or avionics engineer for an international space agency
- Director of transport modelling and mapping for a government infrastructure authority
- Entrepreneur and business owner in a start-up tech company
- CEO or Chief Engineer in the automotive industry.

DELIVERING GRADUATE CAREER OUTCOMES

Michael Strauss completed a 12-week Co-op program internship at AMOG Consulting which lead to being offered a part-time position at the company while finishing his degree. While at AMOG, Michael completed a business development project building an Internet of Things demonstrator device to show Industry 4.0 capabilities to prospective clients.

Studying a double degree in Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Commerce and working as an undergraduate engineer at AMOG, Michael has also found the time to explore his entrepreneurial side. Selected for The Generator's Accelerator program, Michael and his co-founder, a fellow engineering student, created Jeffrey AI, a successful virtual personal assistant on Facebook Messenger that helps university students stay on top of their workload.



Taking students in before they've completed their undergraduate studies gives us and them the opportunity to work together and see whether there is a good fit between our business and their areas of study and interest."

ANDREW THOMSON
General Manager, AMOG Consulting



STRONG JOBS GROWTH IS PROJECTED IN MOST ENGINEERING FIELDS OVER THE NEXT FIVE YEARS
Job Outlook, Australian Government 2020.

84.1%

MONASH ENGINEERING GRADUATES ARE IN FULL-TIME EMPLOYMENT WITHIN FOUR MONTHS

2021 Graduate Outcomes Survey (GOS) report, Quality Indicators for Learning and Teaching (QILT).

\$116K

AVERAGE AUSTRALIAN ENGINEERING SALARY

Adzuna Job Report, 2022.

34

OF THE TOP 100 CEOs IN THE WORLD ARE ENGINEERS

[^]Harvard Business Review, The Best-Performing CEOs in the World 2018.



Discover more about our paid internship Co-operative Education Program at

monash.edu/engineering/coop



Monash Robotics



New Horizons Research Centre

WORLD-CLASS FACILITIES

The engineering precinct at Monash University provides facilities that will enhance your personal learning experience.

Monash Makerspace

The Monash Makerspace provides a facility for our students, staff, alumni and industry partners to come together to build, design and create, and encourage entrepreneurial activities.

Linked to The Generator, our entrepreneurial platform, students have access to this creative, collaborative makerspace, allowing them to turn ideas into reality.

Woodside Building for Technology and Design

The new Woodside Building for Technology and Design provides a world-class learning environment with the latest dynamic and interactive learning spaces, labs and technology. The five-storey, smart-technology enabled building is one of the world's most efficient and innovative teaching spaces and will foster innovation and collaboration – allowing students to explore, design, construct and investigate new technologies required for a sustainable energy future.

Monash Smart Manufacturing Hub

The Smart Manufacturing Hub is a co-creation ecosystem that brings together industry partners, researchers and students to deliver the future of manufacturing.

Some of the research facilities include:

- New Horizons Research Centre
- Monash Centre for Additive Manufacturing (MCAM)
- Woodside FutureLab
- The TITAN Microscope
- Multi-modal Australian ScienceS Imaging and Visualisation Environment (MASSIVE)
- X-ray Analytical Platform
- Drone Discovery Platform
- National Drop Weight Impact Testing Facility.



Visualisation Laboratory



Woodside Building for Technology and Design



A state-of-the-art facility where students develop skills for future manufacturing. Our Monash Makerspace is the place for students to dream, design, make...and break.
monash.edu/engineering/makerspace



Food Engineering Laboratory. Often used by BrewLab, a student team that focuses on the chemical engineering and science of brewing.

SECURE YOUR FUTURE

At Monash we open your eyes to a world outside the classroom. Whether you want to unlock your leadership potential or start thinking like an entrepreneur, you'll have access to extra curricular programs that leave you prepared for leadership, success and – most importantly – life.

Whilst academic capability is essential, employer's are looking for graduates who are highly-skilled, well-rounded individuals. Many place interpersonal and communication skills, critical reasoning and problem-solving, together with passion, at the top of their list. There are many different programs and activities that you can get involved in while studying that will give you practical skills and help you to become work-ready.

Co-operative Education Program

The Co-operative Education Program gives you a kick-start on your future engineering career. Undertake 3, 6 or 12 month full-time, paid internships with our industry partner organisations and gain practical, hands-on skills engineering skills that complement your studies. You can also get involved with the new Embedded Co-op Program and help solve an industry partner's problem as part of a student team working on campus. With Co-op internships you'll graduate job-ready with the skills, employment experience and a new professional network that sets you up for success.

monash.edu/engineering/coop

Career Ready Series

The Monash Engineering Career Ready Series provides you with opportunities to extend your learning beyond the classroom, and stand out from the crowd as you move into the workforce. The Series provides a range of professional development events and activities that are focused on fine tuning your employability skills. Including opportunities to engage with industry and alumni, and to participate in tailored workshops to maximise your graduate employment prospects.

monash.edu/engineering/career-ready-series

Monash Industry Team Initiative (MITI)

The MITI program provides an invaluable experience that'll equip you for life's challenges by offering insights into the business world, practical learning, leadership and teamwork opportunities. Students are competitively selected from a range of fields to form multidisciplinary teams. Working as part of a team, you'll be placed alongside industry experts and given a challenging, well-defined real-world project to deliver, pushing you to use all of your problem-solving, innovation and design skills. This may even be in a company based overseas.

miti.monash.edu

Mentoring

Mentoring can offer support and encouragement to help you succeed, enjoy your studies and gain insights into a career in engineering. The Friends and Mentors in Engineering (FaME) group mentoring program helps new students settle into university, make friends and get the best out of study and life at Monash. The program also provides FaME peer mentors the opportunity to develop leadership and other valuable skills.

The alumni group mentoring program is available in your final years of study. Meet successful industry alumni who've had a similar student journey as you, seek career advice and learn from their experiences.

monash.edu/engineering/mentoring

Continuous Professional Development

The Continuous Professional Development (CPD) Program is a compulsory requirement for all undergraduate Monash Engineering students. It's an online collection of all work, volunteering, and personal and professional development opportunities you experience throughout your time studying your degree. There are numerous opportunities to help you develop these skills and experiences and build your CPD hours to complete the minimum of 420 hours required. When you graduate, your CPD Completion Certificate makes an impressive addition to your CV, by demonstrating highly sought-after attributes in the professional world. It also supports Engineers Australia certification.

monash.edu/engineering/CPD

Entrepreneurial programs

Creativity and entrepreneurialism are at the centre of engineering design education at Monash. You can access dedicated, collaborative design and build spaces to take an idea to reality. The University's entrepreneurial initiative, The Generator, provides experiential education, mentors and seed funding to support you and your startup or social enterprise on your entrepreneurial journey.

monash.edu/entrepreneurship

Summer Research Program

At Monash, we undertake innovative, multidisciplinary research addressing national and international priorities. Monash Engineering has a highly-regarded research profile with extensive links to both industry and the research community worldwide. As an undergraduate engineering student, you'll have the opportunity to complete 12 weeks of paid research training over the University's summer break, which counts towards your Continuous Professional Development requirements. You'll work closely with academic staff on a broad range of fascinating research projects.

monash.edu/engineering/summer-research-program

Study abroad and exchange

Spending part of your engineering degree overseas on exchange* will expose you to new ways of learning and living. You'll also build an international network, develop independence and enjoy a cross-cultural experience. Monash has exchange agreements with more than 150 universities in over 30 countries. While you're overseas your studies are credited towards your degree. As an engineering student, you'll also have the chance to study at Monash Malaysia. Students from Monash Malaysia can also apply to spend a semester at Clayton.

monash.edu/study-abroad/outbound

MONASH SOLAR DECATHLON TEAM

A multidisciplinary team of Engineering, Science and Art, Design and Architecture students whose mission is to create practical net-zero designs that give back to the environment and the community. The team has compete and won international competitions for their sustainable and innovative designs.

STUDENT TEAMS AND CLUBS

Student-led teams, clubs and societies give you the chance to get more out of your uni experience. Develop hands-on skills, solve real problems and compete on the world stage. Form lasting friendships and networks, develop your professional skills and pursue areas you're passionate about.

In a student team you'll get hands on with authentic, real-world projects and challenges. Work together in diverse, multi-disciplinary teams to deliver innovative products or drive change to make the world a better place.

Our student-run clubs and societies provide opportunities to connect with like-minded people, learn new skills and engage with industry to broaden your networks. Some of the groups available are:

Female Engineers at Monash (FEM)

FEM supports, inspires and connects female engineering students with women working in the faculty and the profession. The society delivers events and industry guides to give you easy access to information that helps you make the most of your uni experience, and make a smooth transition into the workplace.

Monash Carbon Capture and Conversion (MC³)

The MC³ student team are researching, innovating and designing carbon capture and conversion solutions in the fight against climate change. They won a US\$250K Student Award to help develop their concepts and move to the next stage of competing in Elon Musk's \$100M XPRIZE For Carbon Removal.

Monash Engineering Students' Society (MESS)

MESS is a not-for-profit organisation that'll enrich your Monash experience through social, academic and industry experiences that are engaging and fun. MESS also produces an annual engineering careers guide – a useful resource to help you secure post study employment.

Monash Motorsport (MMS)

Join the MMS team and help conceive, design, build and race a formula-style racing car. The MMS team, ranked 1st in the world in 2020, has a mission to create the most competitive and well-designed formula style race cars possible. They also developed Australia's first competition ready Formula Student Driverless car. Build strong links with the local engineering industry and make use of innovative facilities and leading research.

Monash Nova Rover

Monash Nova Rover was the first Australian student team to be selected to compete in The Mars Society University Rover Challenge. The annual robotics competition held at the Mars Desert Research Station in the United States, challenges teams to design and build a rover to be used by explorers on Mars. The team was made up of students from Engineering, Science, Law, Business and Medicine. They were placed top 10 in the world.

Robogals Monash

Robogals Monash is a not-for-profit organisation that aims to encourage more young women to pursue STEM career opportunities, with a focus on engineering. Robogals offers opportunities to strengthen your communication and leadership skills, and gives volunteers access to professional development opportunities within an international organisation.

Other engineering clubs, teams and societies you can be involved with are:

- Engineers Without Borders
- Gay and Lesbian Engineers at Monash
- Materials Engineering Society
- Mechatronics Engineering Clayton Club
- Monash Aerospace and Mechanical Engineering Club
- Monash Association of Civil Engineering Students
- Monash BorrowCup
- Monash BrewLab
- Monash Connected Autonomous Vehicle
- Monash DeepNeuron
- Monash Engineering and Pharmaceutical Science Society
- Monash Environmental Engineering Society
- Monash Forge
- Monash Fuel from Waste
- Monash High Powered Rocketry
- Monash Human Power
- Monash Solar Decathlon Team
- Monash Solar Water Team
- Monash Student Pilot Process Team
- Monash Uncrewed Aerial Systems
- Monash Young MedTech Innovators
- Precious Plastic Monash
- Society of Monash Electrical Engineers
- Society of Monash University Chemical Engineers
- Transport Engineers at Monash.



MONASH MOTORSPORT

Ranked #1 in the world in 2020, Monash Motorsport is a highly competitive student-run team with over 100 engineering, science and commerce students.



For information on all of our student teams and clubs visit

monash.edu/engineering/student-experience/teams-and-clubs

OUR COURSES

Bachelor of Engineering (Honours) Degree

At Monash you can become a fully qualified and accredited engineer in just four years. Your degree kicks off with a common first year that allows you to explore the ten engineering disciplines¹ before specialising from second year. Complement your specialisation with a minor² in emerging engineering fields and expand your career opportunities. See page 26.

We also offer you the opportunity to broaden your options with a double degree, which can be completed in just one additional year. See page 14.

TAKE YOUR STUDIES FURTHER WITH THE MASTERS ACCELERATED PATHWAY

Bachelor of Engineering (Honours) and Master of Engineering degree package

Graduate with a bachelor's degree plus an expert master's degree in just five years. This is an accelerated pathway program for high-achieving students to be on track to earn both a Bachelor of Engineering (Honours) and a Master of Engineering degree. You will have an outstanding practical and theoretical preparation for a career in engineering, with a rich selection of specialist electives and strong links to industry.

The masters will extend your technical knowledge and provide you with advanced leadership and complex problem solving skills. Designed to foster innovative thinking, entrepreneurship and professional development.

The accelerated pathway reduces the number of master study units to save time and money. A graduate degree can improve your career and employment outcomes.

🔗 monash.edu/engineering/masters-accelerated-pathway

OTHER GRADUATE STUDY OPTIONS

Whether you want to gain a professional edge, or are looking to explore your specialisation at an advanced level or pursue research interests, graduate study will take your qualification to the next level.

- Master of Engineering
- Master of Professional Engineering
- Master of Engineering Science by Research
- Graduate Research Degree (PhD)
- Industry Doctoral Program

For more information on all the graduate study options available visit:

🔗 monash.edu/engineering/future-students

¹ The common first year is not available for the biomedical engineering specialisation. Apply directly to the Bachelor of Biomedical Engineering if you intend to choose this specialisation.

² Minors are for single degree course only and not available in some specialisations.

10 SPECIALISATIONS

10 MINORS



DOUBLE YOUR CAREER OPTIONS

Earn two degrees with only one* extra year of study and broaden your career opportunities. Combining engineering with another degree gives you a distinct set of skills and helps you stand out in today's competitive job market.

Employers often seek engineering graduates with expertise in other disciplines and are impressed by the breadth of knowledge and insight in double-degree graduates. Combine your engineering degree with commerce, information technology, science and more to pursue a career in either area, or to take up one of the many opportunities emerging at the intersection of disciplines. An engineering double degree offers diversity, more career choices and flexibility.

Architectural Design

The building industry needs engineering professionals with strong architectural knowledge. The combination of architectural design with civil engineering is an exploration of creative solutions to a wide variety of engineering and social problems.

You'll graduate with valuable skills for transforming the built environment, from the design of buildings or bridges to renovating existing structures to work more efficiently. The ability to provide solutions through creative thinking and realistic applications will make you attractive to architectural and engineering firms in Australia and overseas.



Arts

Combining an engineering degree with an arts degree provides complementary skills in technology and communications. You'll develop the transferable skills employers are looking for: communication, teamwork, research and critical thinking.

Arts at Monash provides your comprehensive gateway to about 40 areas of study across the arts, humanities and social sciences. With this dual degree you'll have a portfolio uniquely tailored to meet your interests and aspirations.



Biomedical Science

If you're eager to explore a career in biological/biomedical engineering, consider a double degree in engineering and biomedical science. Advances in biological sciences and demand for technological solutions are creating opportunities for engineers. In the coming years engineering will be transformed, as it parallels and fuses with developments in biomedical science.



Commerce

Do you dream of making it big in the business world? If so, engineering and commerce is a powerful combination. Many CEOs of major corporations have engineering qualifications. People with sound business skills and a strong technological background are consistently in demand across many industries and organisations.



Computer Science

Computer science provides solutions to the ever-increasing information challenges in the modern world. Industry needs people who can extract and analyse information from the massive datasets generated by engineering processes and devices. Big data is the new challenge and opportunity in engineering practice across industries from construction and manufacturing, to transport and the energy sector. This double degree integrates theoretical and practical skills to solve engineering problems and create innovative solutions across the IT spectrum, from hardware to software.



Design[^]

Have an eye for form and function? Like to build things? Consider combining mechanical engineering with design to become a product design engineer. Product design engineers design and develop manufactured products that are functional, ergonomic, beautiful and well-engineered.

This double degree integrates the technical and project management skills of an engineer with the creativity and manufacturing know-how of an industrial designer.



Information Technology

In an age of increasing technological advancements, the synergy between engineering and information technology (IT) will only become stronger. IT underpins engineering practice in all disciplines, and industry needs graduates with skills and expertise spanning both. You could do anything from designing a stunning visualisation of engineering data, to building an app for data collection, to setting up the business IT processes to deliver an engineering product via the internet. This double degree combines creative and problem-solving skills to use IT in engineering applications.



Laws (Honours)^{*}

An engineering and laws double degree bridges the gap between technological and legal issues. This double degree combination produces engineers who are sensitive to the legal, corporate and political implications of technology and its applications. As an engineering and law graduate, you're eligible to practise as a solicitor; alternatively, you might join the legal team of an engineering, manufacturing or technology firm.



Pharmaceutical Science[†]

There's an increasing demand for pharmaceutical scientists with the expertise to take products from the design and formulation stage through to manufacturing. Chemical engineers can design, run and troubleshoot production facilities, but their training typically excludes the skills to develop pharmaceutical and related products. Similarly, formulation scientists can invent and test products such as pharmaceuticals, food and cosmetics, but they lack the know-how to manage the product process beyond the laboratory stage. This double degree combines chemical engineering and pharmaceutical science to produce professionals capable of covering the full spectrum of the pharmaceutical product design and development processes.



Science

Engineering is concerned with the application of science; however many engineers are fascinated by scientific investigation and eager to enhance their understanding of the pure sciences. You may choose to combine engineering with food science or technology, or explore the fundamentals of the cosmos through astrophysics. Or you may be interested in the most fascinating machine of all – the human body.



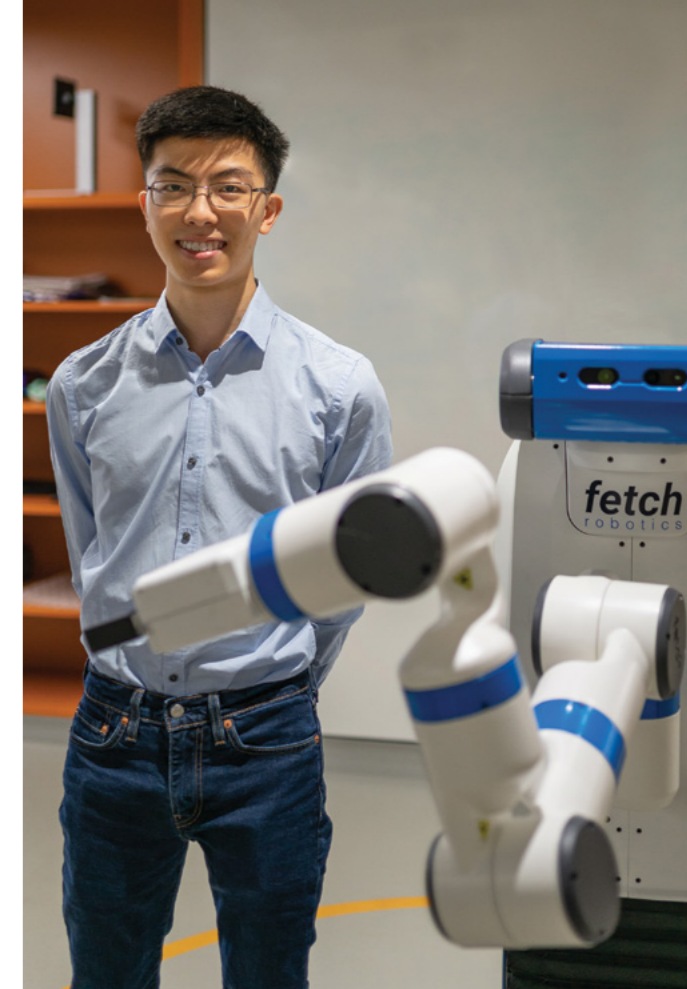
For more information, visit monash.edu/engineering/double-degrees

DOUBLE DEGREE COMBINATIONS

The following table shows double degree combinations and the Engineering specialisations with which they're available:

	Architectural Design	Arts	Biomedical Science	Commerce	Computer Science	Design [^]	IT	Laws (Honours) [*]	Pharmaceutical Science [†]	Science
Aerospace		•		•				•		•
Chemical		•	•	•				•	•	•
Civil	•	•	•	•				•		•
Electrical and computer systems		•	•	•	•		•	•		•
Environmental		•		•						•
Materials		•	•	•				•		•
Mechanical		•	•	•		•		•		•
Robotics and Mechatronics		•		•						•
Software		•		•	•		•			•

* Additional 2.25 years for engineering and laws double degree.
[^] Industrial design only.
[†] Formulation science only.



I decided to study an Engineering and Commerce double degree to keep my options open. I'm passionate about engineering and helping students learn, and aim to pursue a PhD and a career in academia. But I knew that obtaining "business" knowledge would be beneficial to my career, especially if I don't take the academia path and enter industry. Studying commerce will help make me a more well-rounded individual and complement engineering degree."

KERRY HE

Bachelor of Robotics and Mechatronics Engineering (Honours) and Bachelor of Commerce - Majoring in Finance
 Unit Demonstrator, Monash Engineering



Scan me or visit

monash.edu/engineering/change-makers/kerry



📍	Clayton
🕒	4 years full-time 8 years part-time
📅	February and July
📊	ATAR: 86*
📊	IB: 32*
📊	MG: 85
🎯	Specialist

DEGREE AWARDED
Bachelor of Aerospace Engineering (Honours)

DOUBLE DEGREES

- Arts
- Commerce
- Laws (Honours)
- Science

MINORS

- Artificial intelligence in engineering
- Computational engineering
- Engineering entrepreneurship
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing
- Sustainable engineering

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E). MG: Monash Guarantee.

AEROSPACE ENGINEERING

Aerospace engineering is concerned with the design, airworthiness, development and maintenance of flight vehicles. It's a multidisciplinary combination of aerodynamics, aero-structures, avionics, propulsion, materials engineering and computational simulation.

As an aerospace engineer, you'll have the skills to tackle many of tomorrow's global challenges. You may be involved in the creation of a more environmentally-friendly aircraft, or even help build a vehicle capable of exploring our solar system and beyond. Project work includes the use of wind tunnels for aerodynamic testing, computational modelling for predicting structural behaviour, advanced manufacturing, and materials and structural testing.

Career options

When you graduate you could work in aircraft design and maintenance, aerospace control systems, aerodynamics, sustainable energy and conservation, lightweight materials, big data analytics, or new manufacturing techniques. You could join a large aerospace company or a manufacturer that contracts to the aerospace industry. Or work at an airline, a government aerospace laboratory or research centre. Formula One teams also employ aerospace engineers. With the establishment of the Australian Space Agency, you could work with one of the many new space launch or satellite startups in Australia. You could also follow in the footsteps of Monash aerospace alumni and work at an international space agency or multinational. Your training will also equip you to pursue a career in management, consulting or finance. Join a thrilling profession in the midst of developing the next generation of flight vehicles.

The Boeing 787 Dreamliner, the Falcon Heavy rocket, and the Mars Perseverance Rover are just some of the advances led by aerospace engineers. Career specialisations include:

- aircraft design and testing
- avionics and control systems
- airport operations and management
- aircraft fleet management
- satellite and launch systems engineering
- research and development
- defence industries
- renewable energy
- transportation aerodynamics
- building and structure design and testing.



Discover more at monash.edu/engineering/specialisations/aerospace



Being part of a student team has given me both leadership and practical experience. I've become more familiar with the tools engineers use and learned them in more depth. It's taught me about how to work in an organisation, how to communicate, how to structure a team, how meetings should run and many more skills. Being part of the Monash Human Power (MHP) team gave me the confidence to start a charity with a friend from Uni."

NERAJ GALAGEDARA

Bachelor of Aerospace Engineering (Honours) and Bachelor of Science - Majoring in Chemistry
Aerodynamics Engineer, Monash Human Power
Founder and Director of charity, Alex Makes Meals



📍	Clayton
🕒	4 years full-time 8 years part-time
📅	February
📊	ATAR: 87.25*
📊	IB: 32*
📊	MG: 85
🎯	Specialist

DEGREE AWARDED
Bachelor of Biomedical Engineering (Honours)

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E). MG: Monash Guarantee.

BIOMEDICAL ENGINEERING

Biomedical engineers apply engineering design skills to medical and biological sciences for the purpose of improving people's health. X-rays, cardiac pacemakers, ventilators and artificial joints - these are just some of the critical technologies used everyday to save lives and promote better health outcomes, and were all designed by biomedical engineers.

As a biomedical engineer, you'll bridge the gap between medicine and technology to improve diagnostics, monitoring and therapy, and create new medical instruments and devices. Whether you design new 3D-printed prosthetics, use biomaterials to repair and regenerate cells, apply AI principles to advanced monitoring tools, or build your own start-up in the med-tech field, you'll make a powerful impact on patients' treatment, recovery and quality-of-life as a biomedical engineer.

At Monash, you'll be equipped with strong clinical, technical and regulatory foundations in professional biomedical engineering practice, taught by leading academics in physiology, anatomy, molecular biology, materials science, electrical, mechanical and chemical engineering.

With our network of industry partners, you'll have opportunities to build your career and gain practical experience before you graduate, while the Australian-first Victorian Heart Hospital, located on the Clayton campus and opening in 2022, will offer exciting opportunities to pursue biomedical engineering research.

Play a leading role in transforming 21st century healthcare, and change millions of lives around the world for the better by studying biomedical engineering.

Career options

When you graduate as a biomedical engineer, you'll find exciting and rewarding opportunities in the following areas:

- medical equipment and device design and manufacturing
- medical and healthcare services
- pharmaceutical design and manufacturing
- biomedical instrumentation industries
- prosthetics
- research and development
- med-tech entrepreneurship
- engineering consultancy.



Discover more at monash.edu/engineering/specialisations/biomedical



I was drawn to biomedical engineering, learning about prosthetics, bionics and tissue engineering. I decided to continue my studies, undertaking a PhD at Monash where we are developing bionic eyes by integrating electronics with the brain.

My future goal is to help millions of people worldwide by restoring eyesight to blind patients."

SABRINA MEIKLE
Doctor of Philosophy (PhD)



Scan me or visit

monash.edu/engineering/change-makers/sabrina





Clayton, Malaysia

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Chemical Engineering (Honours)

DOUBLE DEGREES

- Arts
- Biomedical Science
- Commerce
- Laws (Honours)
- Pharmaceutical Science
- Science

MINORS

- Artificial intelligence in engineering
- Computational engineering
- Engineering entrepreneurship
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing
- Sustainable engineering

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E).

MG: Monash Guarantee.

^ See page 28 for Masters Accelerated Pathway entry requirements

Discover more at monash.edu/engineering/specialisations/chemical

CHEMICAL ENGINEERING

Chemical engineering blends chemistry with engineering and other fields including biological science, environmental science, nanotechnology, pharmaceutical science, mathematical modelling, artificial intelligence and digitalisation, mineral processing, management and economics. Many everyday items involve chemical engineering during some stage of their production: pharmaceuticals, computer chips, mobile phones, catalysts, food and water, and our fossil fuel and renewable energy sources, to name just a few.

Chemical engineers invent, develop, design and improve the sustainability of processes that convert raw materials and wastes into useful products, with minimal environmental impact. They're also involved with pollution control, energy generation and conservation, recovering energy from waste and renewable resources, and protection of the environment.

A selection of high-achieving students are given the opportunity to undertake integrated industrial training in their final year. You'll have the benefit of expert industry lecturers teaching several units in third and fourth year, in addition to frequent industry guest lecturers in all year levels. Take your studies further with the new Master of Biological Engineering[^] accelerated pathway. Advance your skills and career opportunities with only one extra year of study.

Career options

As a chemical engineer, you can:

- develop alternative fuels and renewable sources for chemicals, pharmaceuticals and power production
- design, develop or improve industrial processes and equipment for large-scale chemical and biochemical manufacturing
- design processes to capture carbon to combat global warming
- plan and test methods of manufacturing
- improve energy efficiency or reduce water and resource consumption at manufacturing sites
- develop sustainable methods for the upcycling of byproducts and waste from manufacturing processes
- devise green production processes that are safe, efficient, profitable and environmentally sound
- research naturally-occurring chemical reactions so that these processes can be copied for human benefit
- conduct environmental impact studies
- develop and implement lower emission production technologies
- research and develop new processes and products including mathematical modelling, artificial intelligence and digitalisation
- design, develop and use advanced and renewable materials.



I chose chemical engineering because of my interest in improving sustainable processing, such as reducing carbon emissions by creating circular economies and providing cleaner energy.

At Monash, there is so much scope for exploring your career, hobbies and interests. I helped establish a student team, Monash Carbon Capture and Conversion (MC³). The team recently won a competition sponsored by Elon Musk and the XPRIZE Foundation, for creating a new environmental solution to pull carbon dioxide from the atmosphere and oceans.”

GARV BHARDWAJ

Doctor of Philosophy (PhD)
Bachelor of Chemical Engineering (Honours)
Technology Advisor, Monash Carbon Capture and Conversion (MC³)



CIVIL ENGINEERING

Civil engineers design and improve infrastructure systems and processes that allow humans and nature to coexist with minimal impact. Modern society couldn't function without them. We need civil engineers to design and build higher-capacity transportation systems. We need them to construct larger commercial and industrial complexes. We need them for water supply and pollution control.

We need efficient, cost-effective and innovative repair or replacement of civil infrastructure such as roads, bridges and buildings. At Monash we help you prepare for your civil engineering career early, learning the fundamentals and exploring emerging technologies, such as AI, 3D printing and robotics. You will also have the opportunity to gain industry experience in the major fields.

As a civil engineer, you can be involved in:

- **Structural** – design and oversee construction of buildings, bridges, airports, railways, commercial complexes, towers, offshore platforms, and tunnels. Ensure structures remain sound under extreme conditions such as heavy traffic, high winds and earthquakes.
- **Water** – plan and manage water supply and drainage systems for communities, agriculture, and industry. Develop projects to control flood waters, design dams, spillways, and pipe networks. Manage rivers and develop systems to collect and treat wastewater, and develop urban water systems.
- **Transport** – plan for the future travel needs of cities and rural areas. Investigate alternative and sustainable transport technologies including electric and autonomous connected vehicles to make existing road and traffic systems safer, more efficient, and user-focused.
- **Geomechanics** – design and analysis of foundations and support structures, slopes, waste containment facilities, dams and tunnels, as well as engineering of geomaterials for infrastructure projects.

Career options

Graduating as a civil engineer, you'll find challenging and rewarding opportunities in the following areas:

- private industry and government infrastructure
- humanitarian engineering and sustainable development
- construction and mining
- roads and traffic industries
- marine and resort developments property and land development consulting firms
- environmental and renewable energy sectors.



I've always been into the bigger picture and have enjoyed working on projects that drive growth in society, whether that be through accessibility, jobs or improved livability. Civil engineering reflects this, and I think it's incredible that we have the skills and technical knowledge to deliver end-to-end projects such as skyscrapers, underground tunnels, bridges and dams.

I did a 6-month Co-op internship with Rail Projects Victoria working on the Metro Tunnel Project. The sheer magnitude and construction of the underground station cavern was phenomenal. My biggest takeout was the technical knowledge gained when consulting with on-site contractors and generating technical reports.”

NINA LE-TRANG

Bachelor of Civil Engineering (Honours)
Engineering Masters Pathway Scholarship



Clayton, Malaysia

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Civil Engineering (Honours)

DOUBLE DEGREES

- Architectural Design
- Arts
- Biomedical Science
- Commerce
- Laws (Honours)
- Science

MINORS

- Artificial intelligence in engineering
- Computational engineering
- Engineering entrepreneurship
- Environmental engineering
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing
- Sustainable engineering

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E).
MG: Monash Guarantee.

Discover more at monash.edu/engineering/specialisations/civil



Clayton, Malaysia

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Electrical and Computer Systems Engineering (Honours)

DOUBLE DEGREES

- Arts
- Biomedical Science
- Commerce
- Computer Science
- Information Technology
- Laws (Honours)
- Science

MINORS

- Artificial intelligence in engineering
- Computational engineering
- Engineering entrepreneurship
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing
- Sustainable engineering

CRICOS: 001722B

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MG: Monash Guarantee.

ELECTRICAL AND COMPUTER SYSTEMS ENGINEERING

Electrical and computer systems engineering is an extremely diverse field, encompassing biomedical, computer systems, electronics, electrical power, AI, robotics and telecommunications. Electrical and computer systems engineers investigate, plan, design, develop, construct, test, market and maintain a wide range of products and systems.

Monash will give you the hands-on training and theoretical insight you need for an exciting future as an electrical and computer systems engineer.

You'll experience industry-standard reprogrammable chips in the laboratories from first year onwards. By third year you'll be building miniaturised machines with very powerful processing on board. In fourth year you may apply this knowledge to a 'product' of your own.

Career options

As an electrical and computer systems engineer, you can design and develop digital products such as smartphones, virtual reality systems or computer games, or maybe robotic medical devices to assist in surgery and rehabilitation. Many Monash graduates work in large public and private telecommunications, manufacturing and electrical-power companies. Others work for defence and intelligence organisations. You could also work in banking and finance, or with any organisation that creates, stores, encodes and transmits big data or manages complex systems. You could work locally or internationally in a wide range of industries, including:

- power generation
- industrial and power electronics
- wireless communications
- artificial intelligence
- optical communications
- the 'Internet of Things'
- embedded systems
- computer programming
- robotics
- healthcare.



Electrical and computer systems engineering was the perfect mix of software and hardware for me. I wanted to specialise in an area that could lead to a career in biomedical engineering to develop medical devices.

I have started a graduate position at a medical technology company focused on revolutionising respiratory imaging. In my role I'm investigating new approaches to medical imaging analysis and prototyping new features to ensure our system results in the best patient outcomes."

EMMA SCULLY

Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Biomedical Science
Research Engineer, 4D Medical
Past President of Society of Monash Electrical Engineers and member of Monash Young MedTech Innovators

Discover more at monash.edu/engineering/specialisations/ecse



Scan me or visit

monash.edu/engineering/change-makers/emma



Clayton

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Environmental Engineering (Honours)

DOUBLE DEGREES

- Arts
- Commerce
- Science

MINORS

- Artificial intelligence in engineering
- Civil engineering
- Computational engineering
- Engineering entrepreneurship
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing

CRICOS: 001722B

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MG: Monash Guarantee.

ENVIRONMENTAL ENGINEERING

Few branches of engineering have such a profound impact on our health, quality of life and the future wellbeing of the planet as environmental engineering. It's all about the implementation and management of solutions and programs in keeping with the principles of sustainable development and humanitarian engineering. It involves reducing energy and resource use and both minimising and managing waste and pollution, while providing the community with the development opportunities it needs to grow.

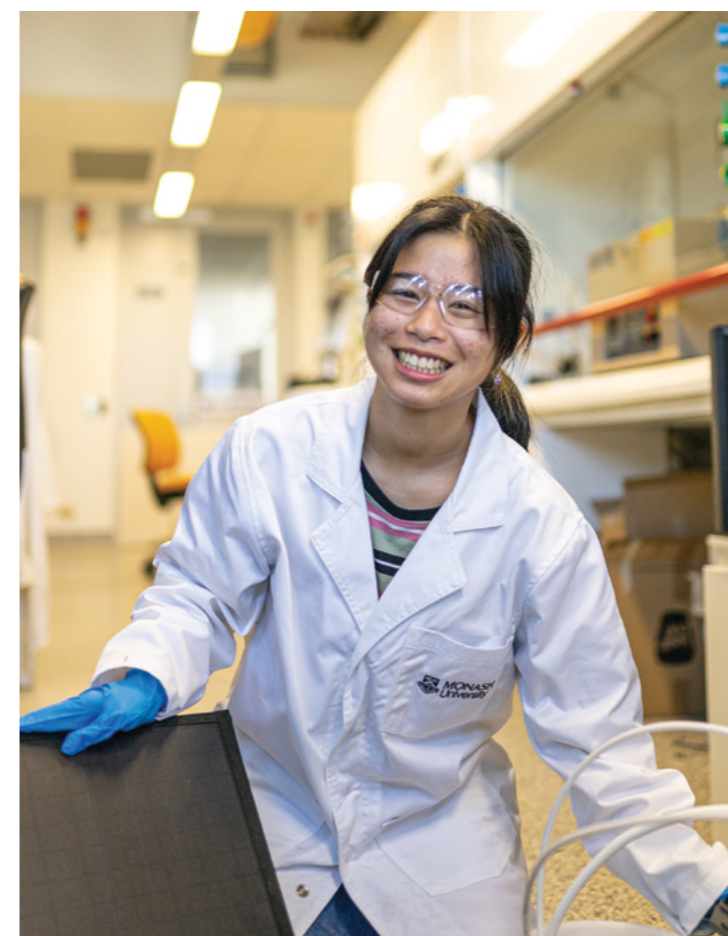
Environmental engineering encompasses water and air-pollution control, recycling, water supply, waste disposal, land management, transport and the built environment, process engineering and public health issues.

Career options

Environmental problems exist in all countries and industries, so your opportunities are broad and far-reaching. You could work in air-pollution control, water supply, land management, impact assessment, hazardous-waste management, energy production, stormwater and wastewater management, environmental management systems and much more.

Organisations employing environmental engineers include:

- power generation
- engineering consulting firms
- industries that need cleaner production systems
- private and municipal agencies that supply drinking water and treat wastewater
- companies treating and disposing of hazardous waste
- environmental agencies and companies responsible for mine-site rehabilitation
- organisations helping to account for carbon and implementing low-carbon solutions
- government agencies monitoring and regulating environmental issues
- universities that teach and conduct sustainability research
- not for profit and international agencies that aid developing nations.



I've always been passionate about the environment and sustainability. Studying environmental engineering at Monash allows me to combine my love for technology and problem-solving with my passion for sustainability. I really love the mix of units - I get to do units from civil and chemical engineering, and even business, so every semester there is an interesting and engaging mix of topics to learn."

LIZA KWAN

Bachelor of Environmental Engineering (Honours) and Bachelor of Arts
Workshop Lead, Robogals and Sustainability Team Lead, Monash Solar Water Team
Civil engineering cadet, Rail Projects Victoria

Discover more at monash.edu/engineering/specialisations/environmental



MATERIALS ENGINEERING

- Clayton
- 4 years full-time
8 years part-time
- February and July
- ATAR: 86*
- IB: 32*
- MG: 85
- Specialist

DEGREE AWARDED
Bachelor of Materials Engineering (Honours)

- DOUBLE DEGREES**
- Arts
 - Biomedical Science
 - Commerce
 - Laws (Honours)
 - Science

- MINORS**
- Artificial intelligence in engineering
 - Computational engineering
 - Engineering entrepreneurship
 - Micro and nano technologies
 - Mining engineering
 - Renewable energy engineering
 - Smart manufacturing
 - Sustainable engineering

CRICOS: 001722B
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Materials engineering is all about making new materials and improving existing ones. It's about making things stronger, lighter and more functional, sustainable and cost-effective. It underpins much of engineering – if we want to make things, we need to have materials with the right properties. Whether it's a next-generation jet engine, a biodegradable tissue scaffold to grow organs from stem cells, or new types of solar cells and batteries, the structure, properties and processing of materials are crucial to the final product.

Materials engineers work with everything from the thermal protection of space shuttles to high-tech artificial hip and cochlear implants, and nanoparticles that seek and destroy cancer. Materials engineering is truly interdisciplinary. It involves physics, mathematics, biology and chemistry, culminating in a groundbreaking research field and a thriving job market. As a materials engineer, your expertise will be sought after in the emerging fields of additive manufacturing, nanotechnology, biomedical materials, electronic materials, recycling and energy generation, the development of lightweight metal alloys and in traditional industries such as metallurgy, mining and infrastructure engineering.

Career options

Demand for materials engineers continues to outstrip supply, with Monash graduates receiving an exceptional response in the employment market. Working across a range of exciting industries including aerospace, biomedical, mining, future manufacturing, 3D printing and recycling, materials engineers become:

- biomedical engineers
- consultants
- technology managers
- metallurgists
- materials designers
- energy scientists and future renewable energy engineers
- forensic engineers, aircraft forensics and defence scientists
- materials selection specialists (aero, auto, structural)
- failure analysts
- process engineers
- corrosion or durability engineers
- research engineers.



Discover more at monash.edu/engineering/specialisations/materials

From the moment I set foot on the Monash University campus, I knew that I belonged here! The people, the culture, the environment just felt so perfect and there are so many opportunities for international students.

There have been so many highlights in my time at Monash. My top three are my Co-op internship, the Engineering Leadership Program and my Final Year Project with CSIRO. I really enjoyed these opportunities - they brought out the best in me. I learnt a lot of practical skills which I will use in my career as well as personal life in the future."

GAYASHA GEEVINDIE
Bachelor of Materials Engineering (Honours) and Bachelor of Commerce



MECHANICAL ENGINEERING

- Clayton, Malaysia
- 4 years full-time
8 years part-time
- February and July
- ATAR: 86*
- IB: 32*
- MG: 85
- Specialist

DEGREE AWARDED
Bachelor of Mechanical Engineering (Honours)

- DOUBLE DEGREES**
- Arts
 - Biomedical Science
 - Commerce
 - Design
 - Laws (Honours)
 - Science

- MINORS**
- Artificial intelligence in engineering
 - Computational engineering
 - Engineering entrepreneurship
 - Micro and nano technologies
 - Mining engineering
 - Renewable energy engineering
 - Smart manufacturing
 - Sustainable engineering

CRICOS: 001722B
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Mechanical engineering is about the intelligent and efficient use of motion and energy to create, manufacture and assemble designs, from the simplest to the most complex. It builds on physics, chemistry, materials, mathematics and biology. Growth industries include advanced manufacturing, smart buildings, renewable energy and medical engineering.

Mechanical engineers are increasingly engaged in the design and operation of devices that require skills that cross traditional discipline boundaries. As a mechanical engineer, you can build a career in industries including power generation, water distribution, biomedical, mass transportation and air travel.

You can use your skills to improve life on earth and in space. From designing sustainable living spaces to cost-effective products for the developing world. You could even create a safe and reliable human habitat to support future space exploration.

Career options

As a mechanical engineer you will discover countless opportunities in a wide range of industries in Australia and overseas. You could pursue one or more of these specialist areas:

- building systems engineering
- advanced manufacturing
- robotics and automation
- advanced engineering analyses
- food production
- medical device technologies
- advanced composite structures
- micro and nano technologies
- wind engineering
- sustainable engineering systems
- renewable energy systems.

Our Final Year Project involved designing a low-cost mechanical ventilator. We created AddiVent, a mechanical ventilator that can be cheaply and easily manufactured through community crowdsourced 3D printing and widely available off-the-shelf products.

We were extremely surprised and honoured when Good Design Australia awarded our project a Good Design Award in the Next Gen: Product Design category."

AMAN BHATTI AND BEN FRASER
Bachelor of Mechanical Engineering (Honours) and Bachelor of Industrial Design



Discover more at monash.edu/engineering/specialisations/mechanical

Scan me or visit monash.edu/engineering/change-makers/aman-and-ben



Clayton, Malaysia

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Robotics and Mechatronics Engineering (Honours)

DOUBLE DEGREES

- Arts
- Commerce
- Science

MINORS

- Artificial intelligence in engineering[^]
- Computational engineering
- Engineering entrepreneurship
- Micro and nano technologies
- Mining engineering
- Renewable energy engineering
- Smart manufacturing
- Sustainable engineering[^]

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E).

MG: Monash Guarantee.

[^] Artificial Intelligence minor not available in Artificial intelligence stream and Smart Manufacturing minor not available in Automation stream.

ROBOTICS & MECHATRONICS ENGINEERING

Robotics and mechatronics is where mechanical and electrical engineering meet, employing computer science and control systems to make devices smarter and more efficient.

As a robotics and mechatronics engineer you could create rovers for planetary exploration or robots for precision manufacturing or to assist the elderly. Alternatively, you might convert a household product into a truly clever device, and create the programs that control it.

You'll learn how to handle vast amounts of data and extract critical information from data in real time so that a fully automated manufacturing facility can operate safely and efficiently, or a car can drive completely autonomously.

Robotics and mechatronics engineers are in high demand. Their expertise is required in many industries including advanced manufacturing, aerospace, medicine, defence, transportation and data analysis.

There are two streams available to choose from:

- **Artificial intelligence** covers neural networks and deep learning, advanced engineering design, computer vision systems, and intelligent robotics.
- **Automation** includes design of mechatronic systems, dynamics and control, robotics and sensing, and advanced manufacturing.

Career options

You'll be equipped with the knowledge and skills to design, develop, manufacture and operate the intelligent products and complex systems of today and tomorrow. There are also opportunities in consulting, management and finance. You may also pursue a career in research and development, in academia, research institutions or advanced industry sectors. Opportunities exist in:

- robotics and automation
- aerospace systems and flight control
- artificial intelligence
- bioengineering
- defence
- intelligent systems for motor vehicles
- manufacturing systems and processes
- telecommunications
- medical systems
- software engineering
- mining systems and processes
- nanotechnology.



Clayton, Malaysia

4 years full-time
8 years part-time

February and July

ATAR: 86*

IB: 32*

MG: 85

Specialist

DEGREE AWARDED

Bachelor of Software Engineering (Honours)

DOUBLE DEGREES

- Arts
- Commerce
- Computer Science
- Information Technology
- Science

CRICOS: 001722B

* The scores provided are to be used as a guide only, and are either the lowest selection rank to which an offer was made in 2022 or an estimate (E).
MG: Monash Guarantee.

SOFTWARE ENGINEERING

Software engineering is a field that's constantly evolving as new technologies emerge. As an engineer in this area, your skills will be critical across many functions – from dispensing life-saving medicine to controlling flight paths.

As a software engineer you'll use your expertise in computer science, engineering principles and programming languages to build intelligent software products that may involve artificial intelligence and machine learning components, develop games and run network control systems. You could design systems and applications tailored to specific users and their needs, and build the underlying systems that run the technology and control networks. Solve business challenges by delivering technical solutions and assess organisation's current systems and needs to create strategies for improvement.

You'll learn about core areas such as software processes and life-cycles, requirements analysis, software design and architecture, software development, quality assurance and testing. Work with modern, industry-strength programming languages, technologies and systems. Through collaborative learning, you'll hone your teamwork, problem solving, resource management, project coordination and communication skills.

You can choose from a wide range of IT electives from cyber security to games development to business information systems. You can apply for the highly-regarded IT Industry-Based Learning (IBL) program to do a half-year placement with a leading organisation. Placements count towards your course and are supported by \$18,000 scholarships.

The Bachelor of Software Engineering (Honours) is accredited by the Australian Computer Society and Engineers Australia.

Career options

In the age of digital transformation, new roles are constantly emerging and software engineering graduates are highly sought-after around the world. You could pursue a career as:

- software engineer or developer building products, games and network systems
- software architect or data engineer designing specific systems and databases
- block chain developer or engineer building software for digital identity, workforce management and data storage
- front end engineer writing the code for a website or app
- machine learning engineer writing personalised and predictive software
- network administrator or security engineer making systems secure and protect from threats.

Discover more at monash.edu/engineering/specialisations/robotics-mechatronics



The highlight of my uni experience so far has been the opportunity to participate in the Nova Rover student team. I recommend getting involved with student teams ASAP. They are a great way to develop practical skills alongside your studies and make friends.

Seeing all the amazing things that others have accomplished in my team has given me a drive to try and learn as much as I can, and develop my skills as much as possible in my remaining time at Monash."

GRANT BRADBEEER

Bachelor of Robotics and Mechatronics Engineering (Honours) and Bachelor of Science Chassis Team - Rover Operator, Monash Nova Rover

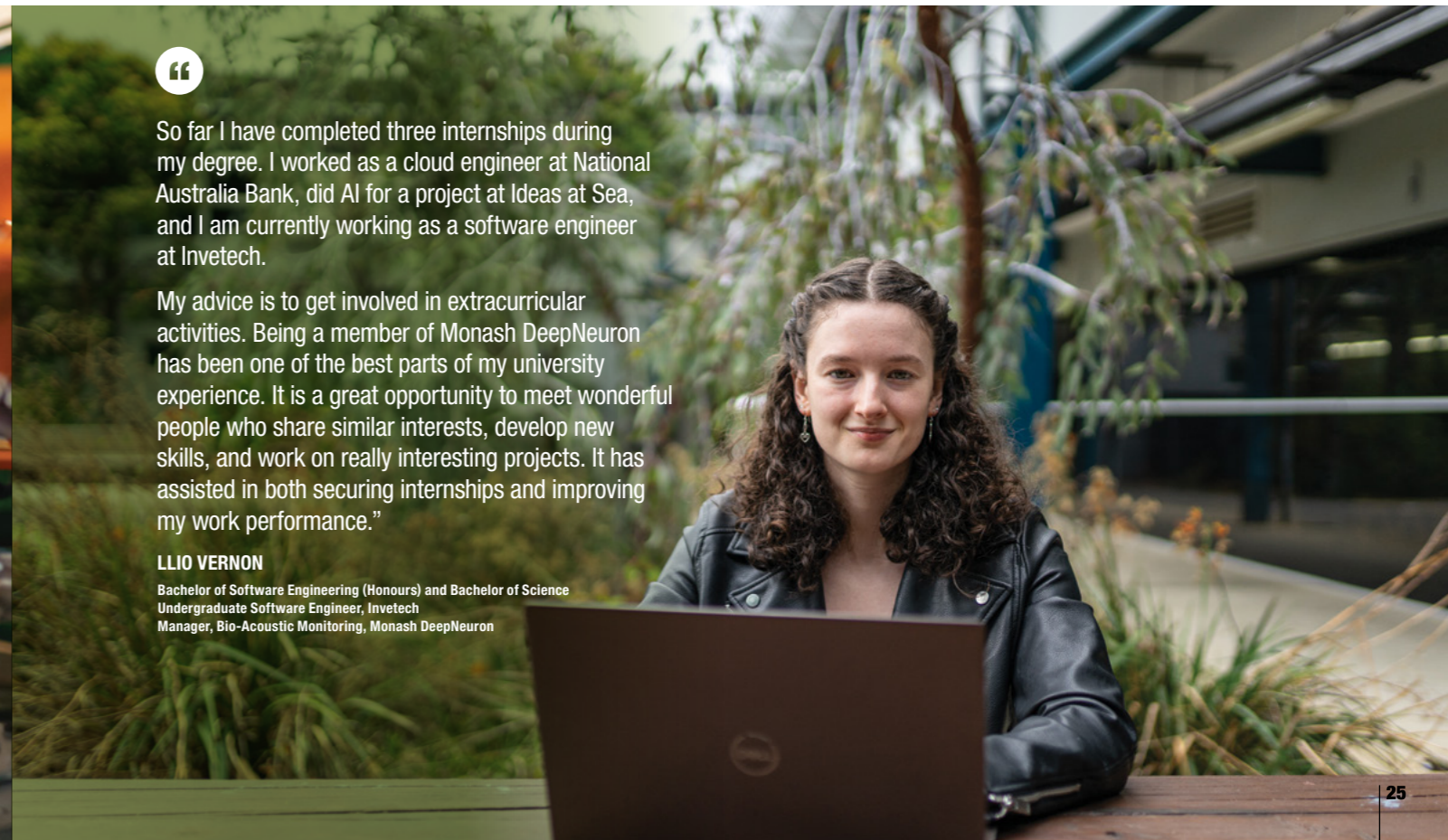
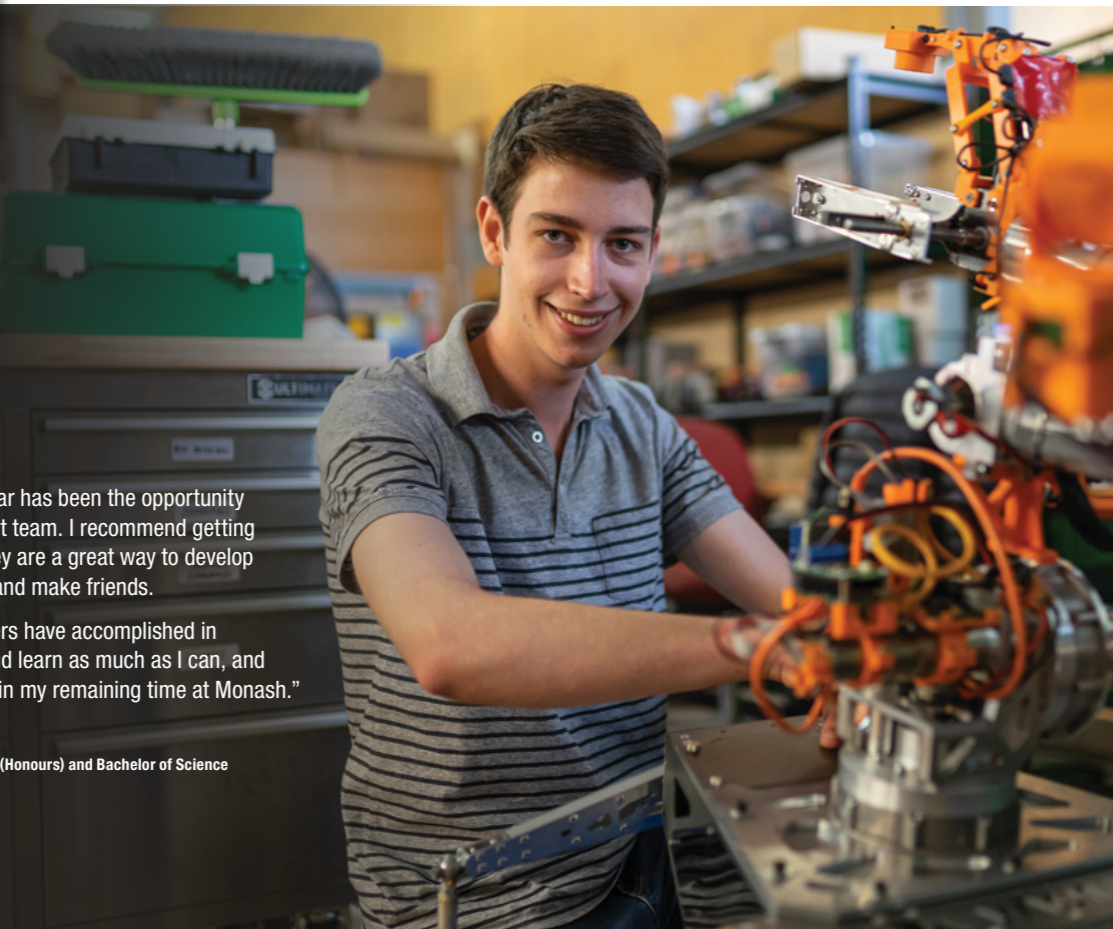


So far I have completed three internships during my degree. I worked as a cloud engineer at National Australia Bank, did AI for a project at Ideas at Sea, and I am currently working as a software engineer at Invitech.

My advice is to get involved in extracurricular activities. Being a member of Monash DeepNeuron has been one of the best parts of my university experience. It is a great opportunity to meet wonderful people who share similar interests, develop new skills, and work on really interesting projects. It has assisted in both securing internships and improving my work performance."

LLIO VERNON

Bachelor of Software Engineering (Honours) and Bachelor of Science Undergraduate Software Engineer, Invitech Manager, Bio-Acoustic Monitoring, Monash DeepNeuron



Discover more at monash.edu/engineering/specialisations/software

ENGINEERING MINORS



Artificial intelligence in engineering

Artificial intelligence is used by engineers to develop driverless vehicles, meaningful human machine interaction and image recognition. Create new designs involving robotics, deep learning, computer vision and autonomous vehicles.



Civil engineering

Civil engineers design and improve systems and processes that allow humans and nature to coexist with minimal impact. They design and build high-capacity transportation systems; construct large commercial and industrial complexes; water supply and pollution control systems; and repair or replace roads, bridges and other structures.



Computational engineering

Computational engineering is a rapidly growing multidisciplinary field that simulates the physical world using computers to solve engineering design problems, develop new technologies and shape the world we live in. Biomedical devices, submarines and wind turbines are just a few examples where computer models are used to predict how new designs will behave in reality.



Engineering entrepreneurship

Developed with the Monash Business School for engineers interested in becoming entrepreneurs and innovators. Includes fundamentals of entrepreneurship such as idea creation, market validation, company structures, technology development, investment and go-to-market business models.



Environmental engineering

Environmental engineering involves the implementation and management of solutions that are in harmony with the principles of sustainable development. By improving the knowledge on air, water and land quality, environmental engineers help restore the environment and protect our natural world.



Micro and nano technologies

Micro and nano technologies form the basis of any modern miniaturised system including electronic devices, sensors and actuators in smartphones and vehicles and diagnostic systems, biomedical devices and devices for environmental monitoring. Explore how the design properties of nanostructured materials may be exploited for everyday applications, ranging from food packaging and sunscreens, to sensors and energy-related areas.



Mining engineering

Mining engineering involves environmentally-safe extraction and processing of natural minerals from the earth. Mining engineers supply critical materials like copper, iron, lithium and gold, that are essential for modern society and the world's economy. Automation and digital technologies are modernising the mining industry and transforming mining careers.



Renewable energy engineering

Renewable energy engineering focuses on the fundamental conversion of solar radiation, wind, hydro, and bioenergy resources into electricity by designing, building and operating energy plants such as wind farms, solar farms and hydro power facilities. Renewable energy engineers run the large-scale energy system incorporating renewables, and provide expert advice in the development of energy policy.



Smart manufacturing

Smart manufacturing is the core of Industry 4.0 which includes cyber-physical systems, Internet of Things, and augmented reality. This minor equips engineers with the knowledge of modern systems of telecommunication, mechatronics, cyber-physics, and manufacturing for the new era of industry.



Sustainable engineering

The Sustainable engineering minor provides the knowledge and skills to understand the interplay between the environment and human activities. A growing multidisciplinary field of engineering, you'll be introduced to life-cycle analysis, sustainability in the built environments including passive and active technologies, and the political, social and environmental background to materials usage.

Discover more at monash.edu/engineering/minors



MONASH CONNECTED AUTONOMOUS VEHICLE (MCAV)

MCAV student team explores the practical application of autonomous-driving. Their goal is to deliver a Level 4* autonomous software stack that would run on the StreetDrone, Twizy, alongside an intricate V2V communication system for intersection control and a robust environment for traffic and pedestrian behaviour simulation.



Scan me or visit

youtu.be/zruijeZH84A

COURSE STRUCTURE



View all engineering specialisation course maps

monash.edu/engineering/course-maps

Here's an indicative course map showing what your studies could look like if you selected Mechanical Engineering.

YEAR 1¹

Semester 1	Engineering methods	Engineering mathematics	Engineering numerical analysis	Elective
Semester 2	Engineering design	Engineering smart systems	Level 1 Engineering technical elective	Elective

YEAR 2

Semester 1	Mechanics of materials	Dynamics 1	Design methods	Level 1, 2 or 3 elective or engineering technical elective
Semester 2	Advanced engineering mathematics	Mechanics of fluids	Thermodynamics	Level 1, 2 or 3 elective or engineering technical elective

YEAR 3

Semester 1	Solid mechanics	Fluid mechanics 2	Engineering computational mechanics	Level 3 or 4 technical or engineering minor elective unit
Semester 2	Dynamics 2	Machine design	Systems and control	Level 3 or 4 technical or engineering minor elective unit

YEAR 4

Semester 1	Final year project A	Professional practice	Thermodynamics and heat transfer	Level 3, 4 or 5 technical or engineering minor elective unit	Continuous Professional Development ²
Semester 2	Final year project B	Design project	Computer-aided design	Level 3, 4 or 5 technical or engineering minor elective unit	

■ Engineering fundamentals and foundation skills ■ Level 1 elective study ■ Engineering design ■ Engineers Australia professional accreditation requirement ■ Free elective ■ Discipline core unit ■ Discipline technical elective or minor unit

¹ If no foundation units are required
² Clayton campus students
³ Malaysia campus students

HOW TO APPLY

DOMESTIC STUDENTS

Apply through VTAC

If you're an Australian or New Zealand citizen or an Australian permanent resident, apply through the Victorian Tertiary Admissions Centre (VTAC). Visit www.vtac.edu.au

Prerequisites

Please check that you meet the prerequisites for your chosen course before submitting your application. Prerequisite details for each course can be found in the admissions table beginning on page 28.

Scholarships

For more information, and to apply for scholarships, visit monash.edu/scholarships

Fees

To estimate your course fees, visit monash.edu/fees

Commonwealth Supported Places

Australian citizens, New Zealand citizens, Australian permanent residents and permanent humanitarian visa holders are eligible to apply for a Commonwealth Supported Place (CSP). A CSP is a subsidised enrolment where the government pays for part of your course and you only have to pay the Student Contribution Amount (SCA). Eligible CSP students may use a HECS-HELP loan to pay for all or part of the SCA. Visit monash.edu/enrolments/government-loans/commonwealth-supported-place

INTERNATIONAL STUDENTS

All international students must apply for a Monash University course online or through an accredited Monash agent. Visit monash.edu/study/how-to-apply for details.

Note: International students who are undertaking an Australian Year 12 qualification (for example, VCE or equivalent) in Australia or overseas, International Baccalaureate (IB) Diploma in Australia or New Zealand, or National Certificate of Educational Achievement (NCEA) Level 3 in New Zealand must apply through the Victorian Tertiary Admissions Centre (VTAC). Visit www.vtac.edu.au

Fees

\$48,300(A\$), annual average fee per 48 credit points of study in this course for 2022. Further information on fees for each course can be found at monash.edu/fees

Monash College

Monash College is the preferred pathway for students who aspire to study engineering at Monash University but who narrowly miss the academic requirements for direct entry. The course you choose depends on your current level of study and future career plans.

For more information on Monash College academic pathways, visit monashcollege.edu.au/courses

DOMESTIC ADMISSIONS AND ENTRY REQUIREMENTS

ATARS AND PREREQUISITES FOR SINGLE AND DOUBLE DEGREES

Academic prerequisite subjects

The table below outlines the requirements, and the course listing tells you which categories apply to each course. Make sure you check if this applies to your course of choice in this guide.

	English		Mathematics			Science
	■ Level 1	■ Level 2	■ Level 1	■ Level 2	■ Level 3	
VCE	Units 3 and 4: a study score of at least 30 in English (EAL) or 25 in English other than EAL.	Units 3 and 4: a study score of at least 35 in English (EAL) or 30 in English other than EAL.	Units 1 and 2: satisfactory completion in two units (any combination) of General Mathematics or Mathematical Methods or Specialist Mathematics.	Units 3 and 4: a study score of at least 22 in Mathematical Methods (any) or Specialist Mathematics, or a score of at least 25 in Further Mathematics.	Units 3 and 4: a study score of at least 25 in one of Mathematical Methods (any) or Specialist Mathematics.	Units 3 and 4: a study score of at least 25 in Chemistry or Physics.
IB	At least 4 in one of the following SL subjects: <ul style="list-style-type: none"> English A: Literature, or English A: Language and Literature, or Literature and Performance, <i>OR</i> At least 3 in one of the following HL subjects: <ul style="list-style-type: none"> English A: Literature, or English A: Language and Literature, <i>OR</i> At least 5 in one of the following SL subjects: <ul style="list-style-type: none"> English AB, or English B, <i>OR</i> At least 4 in the following HL subject: <ul style="list-style-type: none"> English B. 	At least 5 in one of the following SL subjects: <ul style="list-style-type: none"> English A: Literature, or English A: Language and Literature, or Literature and Performance, <i>OR</i> At least 4 in one of the following HL subjects: <ul style="list-style-type: none"> English A: Literature, or English A: Language and Literature, <i>OR</i> At least 6 in one of the following SL subjects: <ul style="list-style-type: none"> English AB, or English B, <i>OR</i> At least 5 in the following HL subject: <ul style="list-style-type: none"> English B. 	At least 3 in any mathematics subject at SL or HL level.	At least 4 in one of the following SL subjects: <ul style="list-style-type: none"> Math Studies, or Mathematics: Applications and Interpretations, or Mathematics, or Mathematics: Analysis and Approaches, <i>OR</i> At least 3 in one of the following HL subjects: <ul style="list-style-type: none"> Mathematics: Applications and Interpretations, or Mathematics, or Further Mathematics, or Mathematics: Analysis and Approaches 	At least 4 in one of the following SL subjects: <ul style="list-style-type: none"> Mathematics, or Mathematics: Analysis and Approaches, <i>OR</i> At least 3 in one of the following HL subjects: <ul style="list-style-type: none"> Mathematics: Applications and Interpretations, or Mathematics, or Further Mathematics, or Mathematics: Analysis and Approaches. 	At least 4 at Chemistry SL or Physics SL or 3 at HL in Chemistry or Physics.

Single degree courses at a glance

Course	Duration (years) ¹	Prerequisites (Refer to table above)				Degree awarded	Location	Indicative ² ATAR	Indicative ² IB score	Monash Guarantee
		English		Mathematics	Science					
		Level 1	Level 2	Level 3	Specified					
Engineering M	4	■	■	■	Chemistry or Physics	CL	87.25	32	85	Bachelor of Biomedical Engineering (Honours)
										Bachelor of Aerospace Engineering (Honours)
										Bachelor of Chemical Engineering (Honours)
										Bachelor of Civil Engineering (Honours)
										Bachelor of Electrical and Computer Systems Engineering (Honours)
										Bachelor of Environmental Engineering (Honours)
										Bachelor of Materials Engineering (Honours)
										Bachelor of Mechanical Engineering (Honours)
										Bachelor of Robotics and Mechatronics Engineering (Honours)
	Bachelor of Software Engineering (Honours)									
5	■	■	■	Chemistry or Physics	CL	94.20	37	N/A	Bachelor's Honours / Master's Pathway ³	

Double degree courses at a glance

Course	Duration (years) ¹	Prerequisites (refer to table on page 28)				Degree awarded	Location	Indicative ² ATAR	Indicative ² IB score	Monash Guarantee
		English		Mathematics	Science					
		Level 1	Level 2	Level 3	Specified					
Engineering and										
Architectural Design	5	■	■	■	Chemistry or Physics	CL CA	90.25	34	86	Bachelor of Civil Engineering (Honours) and Bachelor of Architectural Design
										Bachelor of Aerospace Engineering (Honours) and Bachelor of Arts
										Bachelor of Chemical Engineering (Honours) and Bachelor of Arts
Arts⁴	5	■	■	■	Chemistry or Physics	CL	91.85	35	86	Bachelor of Civil Engineering (Honours) and Bachelor of Arts
										Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Arts
										Bachelor of Environmental Engineering (Honours) and Bachelor of Arts
										Bachelor of Materials Engineering (Honours) and Bachelor of Arts
										Bachelor of Mechanical Engineering (Honours) and Bachelor of Arts
										Bachelor of Robotics and Mechatronics Engineering (Honours) and Bachelor of Arts
Biomedical Science	5	■	■	■	Chemistry	CL	92.20	35	88	Bachelor of Chemical Engineering (Honours) and Bachelor of Biomedical Science
										Bachelor of Civil Engineering (Honours) and Bachelor of Biomedical Science
										Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Biomedical Science
Commerce	5	■	■	■	Chemistry or Physics	CL	90.75	34	88	Bachelor of Aerospace Engineering (Honours) and Bachelor of Commerce
										Bachelor of Chemical Engineering (Honours) and Bachelor of Commerce
										Bachelor of Civil Engineering (Honours) and Bachelor of Commerce
										Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Commerce
										Bachelor of Environmental Engineering (Honours) and Bachelor of Commerce
										Bachelor of Materials Engineering (Honours) and Bachelor of Commerce
Computer Science	5	■	■	■	Chemistry or Physics	CL	90.15	34	88	Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Computer Science
										Bachelor of Software Engineering (Honours) and Bachelor of Computer Science
Design	5	■	■	■	Chemistry or Physics	CL CA	90.60	34	86	Bachelor of Mechanical Engineering (Honours) and Bachelor of Industrial Design
Information Technology	5	■	■	■	Chemistry or Physics	CL	88.85	33	86	Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Information Technology
										Bachelor of Software Engineering (Honours) and Bachelor of Information Technology
Laws (Honours)	6.25 ⁵	■	■	■	Chemistry or Physics	CL	97.30	39	94	Bachelor of Laws (Honours) and Bachelor of Aerospace Engineering (Honours)
										Bachelor of Laws (Honours) and Bachelor of Chemical Engineering (Honours)
										Bachelor of Laws (Honours) and Bachelor of Civil Engineering (Honours)
										Bachelor of Laws (Honours) and Bachelor of Electrical and Computer Systems Engineering (Honours)
										Bachelor of Laws (Honours) and Bachelor of Materials Engineering (Honours)
Pharmaceutical Science	5	■	■	■	Chemistry	CL PA	90.10	34	86	Bachelor of Chemical Engineering (Honours) and Bachelor of Pharmaceutical Science
										Bachelor of Pharmaceutical Science
Science	5	■	■	■	Chemistry or Physics	CL	89	33	86	Bachelor of Aerospace Engineering (Honours) and Bachelor of Science
										Bachelor of Chemical Engineering (Honours) and Bachelor of Science
										Bachelor of Civil Engineering (Honours) and Bachelor of Science
										Bachelor of Electrical and Computer Systems Engineering (Honours) and Bachelor of Science
										Bachelor of Environmental Engineering (Honours) and Bachelor of Science
										Bachelor of Materials Engineering (Honours) and Bachelor of Science
										Bachelor of Mechanical Engineering (Honours) and Bachelor of Science
										Bachelor of Robotics and Mechatronics Engineering (Honours) and Bachelor of Science
										Bachelor of Software Engineering (Honours) and Bachelor of Science

M Master's Accelerated Pathway | CL – Clayton | CA – Caulfield | PA – Parkville

¹ Duration is based on a standard full-time load of 48 credit points per annum.
² Indicative – The provided score is the 2022 lowest ATAR to which an offer was made or an estimate (E), and is to be used as a guide only.
³ Masters Accelerated Pathway is only available to school leavers and is not offered with biomedical, environmental or software engineering specialisations.
⁴ Depending on your Arts major, you may take the Arts component at Clayton or Caulfield.
⁵ This course is an accelerated course where you'll be required to undertake more than the standard annual load of 48 credit points in year two and/or year three in order to complete the course in six years.

INTERNATIONAL ENTRY REQUIREMENTS

COURSE	DEGREE AWARDED	Duration (years) ¹	Monash code	Location	Intake* (semester)	English language level (see below)	2022 fee p.a. ² (A\$)	Prerequisites (see page 28)			
								English		Mathematics	Science
								Level 1	Level 2	Level 3	Specified
Engineering	Bachelor of Aerospace Engineering (Honours)	4	E3001	CL	Feb July	A	\$48,300	■		■	Chemistry or Physics
	Bachelor of Biomedical Engineering (Honours)										
	Bachelor of Chemical Engineering (Honours)										
	Bachelor of Civil Engineering (Honours)										
	Bachelor of Electrical and Computer Systems Engineering (Honours)										
	Bachelor of Environmental Engineering (Honours)										
	Bachelor of Materials Engineering (Honours)										
	Bachelor of Mechanical Engineering (Honours)										
	Bachelor of Robotics and Mechatronics Engineering (Honours)										
Bachelor of Software Engineering (Honours)											
Bachelor of Engineering (Honours) / Master's Accelerated Pathway ³	5							■		■	Chemistry or Physics

AUSTRALIA-INTERSTATE	BRITAIN (GLOBAL)	CANADA	CHINA	FRANCE	HONG KONG	INDIA	INDONESIA	MALAYSIA	REPUBLIC OF KOREA	USA	VIETNAM	MONASH COLLEGE								
2023 ATAR for international students	UNSW Foundation Studies	University of Melbourne, Trinity College Foundation Studies	GCE A Level	Ontario Secondary School Diploma - Grade 12	Gao Kao	International Baccalaureate (IB) Diploma	Hong Kong Diploma of Secondary Education	All India Senior School Certificate Examination	SMA3	STPM	UEC	College Scholastic Ability Test (CSAT)	High School Diploma	Advanced Placement	SAT (Total score out of 1600)	High School Diploma	Foundation Year (commencing MUFY in 2023)	Diploma Part 1	Diploma Part 2	
87.50	8.25	83%	11	86.30%	75%	31	20	81%	76%	83%	9.4	3	345	83%	7	1270	8.49	76.25%	80%	60%
95	N/A	N/A	14	91%	80%	36	23	85%	80%	90%	10.3	1.8	365	90%	9	1360	8.7	88.75%		N/A

ACADEMIC ENTRY REQUIREMENTS

All Monash undergraduate courses require you to have successfully completed a minimum of an Australian Year 12 qualification (or equivalent) and achieve the required academic entry score. The table above outlines the academic entry scores for the listed qualifications that apply to each undergraduate course applicable to international students only. Entry scores for the listed qualification in this guide are calculated as follows:

COUNTRY	QUALIFICATION	AWARDING BODY	HOW TO CALCULATE YOUR ENTRY SCORE
AUSTRALIA	Australian Year 12 qualifications listed below (refer to the '2023 ATAR for international students' column)		
	Australian Year 12 qualifications		Final ATAR as awarded by the relevant Australian state Year 12 authority.
	Monash University Foundation Year (MUFY)	Monash College Pty Ltd	The undergraduate entry requirements published in this brochure are for students who commence the MUFY program in 2023. Refer to monashcollege.edu.au/courses/fy/dd
	Monash College Diploma Part 1 and Part 2		The Monash College Diploma Part 1 & Part 2 entry requirements published in this guide are for students commencing their undergraduate destination degree in 2024. Refer to monashcollege.edu.au/courses/dips/dd
	Trinity College Foundation Studies	Trinity College, The University of Melbourne	Overall average of the best four subjects (excluding English for Academic Purposes).
UNSW Foundation Studies	University of New South Wales	Final grade point average.	
CANADA	Ontario Secondary School Diploma – Grade 12	Ontario Ministry of Education	Overall average of the best six academic Grade 12 subjects ¹ (excluding workplace preparation courses and open courses). Students must achieve a minimum total of 30 credits and complete Community Involvement. 1 The grade 12 subjects must be taken from the most recent completed Ontario Student Transcript issued by the Ontario Ministry of Education.
CHINA	Gao Kao	Department of Education in China	The total score achieved in the Gaokao examination will be converted into a 100% scale by dividing the total score achieved with the 2022 Gaokao maximum score ² published by the Department of Education in China for each Chinese province. 2 For example: If you achieved a total score of 555 in your Gaokao examination and the 2022 Gaokao maximum score for Guangdong is 750, then the percentage score on a 100% scale converted by Monash University will be 74%.
GLOBAL	GCE A Levels	<ul style="list-style-type: none"> Cambridge International Pearson Edexcel Council for the Curriculum, Examinations and Assessment Oxford, Cambridge and RSA Examinations Welsh Joint Education Committee Assessment and Qualifications Alliance 	Total score by achieving either: <ul style="list-style-type: none"> A maximum of the best three A Level subjects completed within two years³. In the event where only one A Level subject has been completed (and no other A Level subjects have been completed), two AS Level subjects can be counted in place of one A Level subject however the AS Level subject must not be in the same subject area as the A Level subjects included in the calculation. OR A minimum of the best two A Level subjects completed within two years³ plus the best two AS Level subjects. The AS Level subjects however must not be in the same subject area as the A Level subjects included in the calculation. Additional guidelines / Score grades as follows: <ul style="list-style-type: none"> A Level subjects: A*(a*) = 5, A(a) = 4, B(b) = 3, C(c) = 2, D(d) = 1, E(e) = 0.5, U = 0. AS Level subjects: a(a) = 2.5, b(b) = 2, c(c) = 1.5, d(d) = 1, e(e) = 0.5, U = 0. N (Narrow failure) and U (Unclassified) results are not to be included in the calculation. A maximum of one bonus point is offered when achieving A* in an A Level Subject. ³ Subject examinations taken within two years may include more than one sitting. For example, subject examinations in June 2020 until June 2022 are acceptable.
	International Baccalaureate (IB) Diploma Programme	International Baccalaureate Organization	Total points as awarded on the IB Diploma Programme results.
GLOBAL (continued)	American Admission Tests⁴		
	<ul style="list-style-type: none"> Advanced Placement (AP) 	The College Board	Total of the best two AP examinations as awarded on the Student Score Report ⁵ issued by the College Board. Minimum accepted score in each AP examination is 3. 4 If you have completed multiple American Admission Tests (i.e. SAT, AP or ACT), the test with the highest achieved scores will be used to determine if the academic entry requirement has been satisfied 5 All AP examinations submitted to Monash University will be considered when calculating the entry score.
	<ul style="list-style-type: none"> Scholastic Aptitude Test (SAT) – total score out of 1600 		Total score by adding the best section scores achieved in 'Evidence Based Reading and Writing' and 'Math' as awarded on the SAT Score Report ⁶ issued by the College Board. 4 If you have completed multiple American Admission Tests (i.e. SAT, AP or ACT), the test with the highest achieved scores will be used to determine if the academic entry requirement has been satisfied. 6 All SAT examinations submitted to Monash University will be considered when calculating the entry score, provided the SAT is marked out of 1600.

HONG KONG (continued)	Hong Kong Diploma of Secondary Education (HKDSE)	Hong Kong Examinations and Assessment Authority	<ul style="list-style-type: none"> Total score of the best five subjects⁷ (Category A and C only). Scores graded as follows: Level 1=1, Level 2=2, Level 3=3, Level 4=4, Level 5=5 or A=5, B=4, C=3, D=2, E=1. A maximum of 1 bonus point is offered when achieving Level 5** or Level 5* in a HKDSE Category A subject. 7 The highest grade will be used in the calculation in the event where individual subject examinations have been sat in multiple sittings.
INDIA	All India Senior School Certificate	Central Board of Secondary Education	Overall average of the best four academic subjects (excluding Physical Education) and results indicated as 'pass'.
	Indian School Certificate Examination	Council for the Indian School Certificate Examinations	Overall average of the best four academic subjects (excluding Physical Education) and results indicated as 'pass certificate awarded'.
INDONESIA	SMA3	Ministry of Education, Culture, Research and Technology	Overall average of all Semester 1 and Semester 2 Grade 12 results. Note: Monash University undergraduate entry scores vary for SMA3 qualifications that are marked on differing grading scales.
	MALAYSIA	STPM	Malaysian Examinations Council (Majlis Peperiksaan Malaysia)
	UEC	United Chinese School Committees Association of Malaysia	<ul style="list-style-type: none"> Overall average of the best five subjects. Only grades A1, A2, B3, B4, B5 and B6 to be included in calculation. C7, C8 and F9 cannot be included in the calculation. Five subjects must be included in the calculation with a score of B6 grade or higher in each subject. Score grades as follows: A1=1, A2=2, B3=3, B4=4, B5=5, B6=6. It should be noted that a score of A1 is the highest score.
REPUBLIC OF KOREA	College Scholastic Ability Test	Korea Institute for Curriculum and Evaluation	Total score of the best four subjects (including Language Arts and Mathematics) ^{8,9} 8 Korean History, English and vocational education stream subjects can not be included in the calculation. 9 If you have completed both the College Scholastic Ability Test and South Korean High School Diploma, the qualification with the highest achieved score will be used to determine if the academic entry requirement has been satisfied.
	High School Diploma, Republic of Korea	Ministry of Education, Science & Technology	Overall average of academic subjects including fails (excluding non-academic subjects such as Moral Education, Home Science, Physical and Health Education, Civil Ethics, Ethics and Thought, Home Living, and Chinese Characters) ¹⁰ . 10 If you have completed both the College Scholastic Ability Test and South Korean High School Diploma, the qualification with the highest achieved score will be used to determine if the academic entry requirement has been satisfied.
VIETNAM	High School Diploma (Bằng Tốt Nghiệp Trung Học Phổ Thông)	Ministry of Education and Training, Socialist Republic of Vietnam	Overall average of all Grade 12 subjects.

If your qualification cannot be located in the above table refer to monash.edu/prior-study

PREREQUISITE SUBJECTS AND ADDITIONAL REQUIREMENTS

In addition to meeting English entry requirements, some Monash University undergraduate courses may require you to satisfy other prerequisite subjects and additional selection and/or extra requirements.

Please note that all entry requirements for Monash University and Monash College are subject to change.

MINIMUM AGE REQUIREMENTS

You must be at least 17 years of age to enrol in a Monash University undergraduate course. Some exemptions may apply. Refer to

monash.edu/admissions/age-requirements

ENGLISH ENTRY REQUIREMENTS

When you apply for a Monash University undergraduate course you must satisfy English entry requirements.

Level	Academic IELTS					Internet Based TOEFL					Pearson Test of English (Academic)				
	Overall band score	Listening	Reading	Speaking	Writing	Total score	Listening	Reading	Speaking	Writing	Overall score	Listening	Reading	Speaking	Writing
A	6.5	6.0	6.0	6.0	6.0	79	12	13	18	21	58	50	50	50	50

1 Duration is based on a standard full-time load of 48 credit points per annum.
2 Fees are quoted in Australian dollars; each is the annual average fee per 48 credit points of study in this course for 2020. Fees are adjusted annually. Please see monash.edu/fees/course-fee-types/international-full-fee for updates.
3 Masters Accelerated Pathway is only available to school leavers and is not offered with biomedical, environmental or software engineering specialisations.
4 The Monash College Diploma Part 1 and 2 entry requirements are for students commencing their undergraduate degree in 2022.
5 Please refer to monash.edu/study for further details on semester intake availability for individual specialisations

DISCOVER MORE

There's a range of events held throughout the year for you to visit campus and experience Monash Engineering first-hand.

Meet our lecturers, talk to current students, see our innovative facilities and explore the various fields of engineering.

Join us at one of our events or tours:

- Monash Engineering information evenings and webinars
- Discover Engineering at Inside Monash
- Clayton campus and Engineering precinct tours
- Monash Engineering Girls program activities
- Open Day 2022

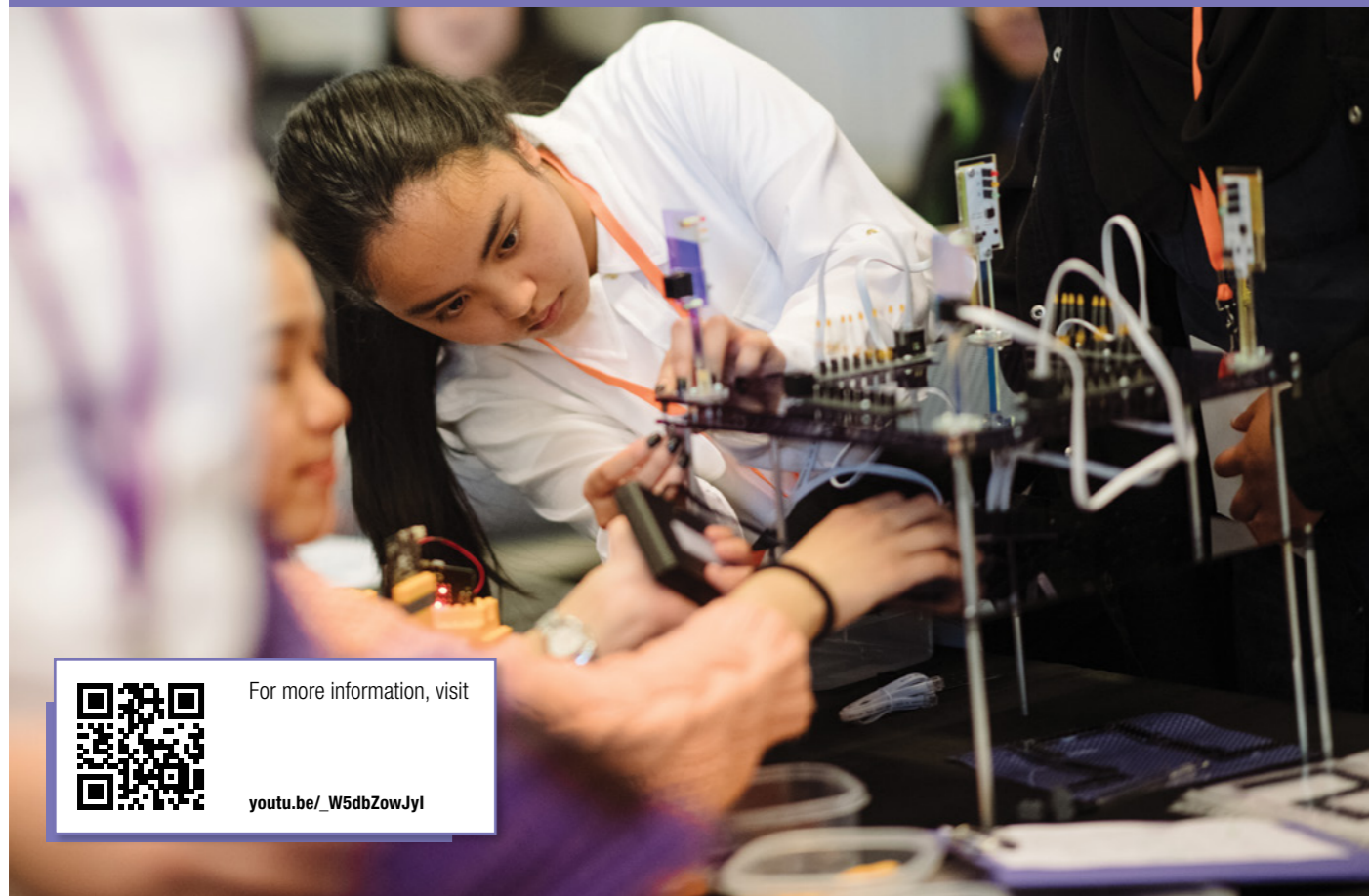
Visit the website for the latest details on these events and more

🔗 monash.edu/engineering/events

JOIN MONASH ENGINEERING GIRLS (MEG)

Join MEG, our girls program and gain access to exclusive events and discover the possibilities a career in engineering can offer. The program is open to secondary school girls in Years 9 -12.

For more information about MEG or to sign up, visit 🔗 monash.edu/engineering/meg



For more information, visit

youtu.be/_W5dbZowJyI

LIVING IN MELBOURNE

Melbourne is a vibrant, multicultural city that offers an abundance of cultural festivities, international sporting events, cafés and restaurants with cuisines from around the world, beautiful parks and beaches, and an eclectic mix of music and arts. As one of the world's most liveable cities¹, you can expect excellence in public transport and healthcare, as well as opportunities for casual work while studying.

Cost of living

Living in Melbourne is affordable if you plan ahead and know what your needs will be. Your tuition and study fees do not include personal costs such as accommodation, food and miscellaneous items. These costs can add up to approximately A\$22,900+ per year. For information on budgeting for your lifestyle, visit 🔗 monash.edu/cost-of-living

Student accommodation

Living on-campus is a great way to experience university life and make connections while you study. On-campus accommodation is available at the Clayton campus and our Residential Services support team is available to help you through the application and transition process. If you prefer a little more independence, there is plenty of off-campus accommodation available. For more information on accommodation, visit 🔗 monash.edu/accommodation

STUDENT LIFE AT MONASH

Clayton campus

Twenty kilometres from the centre of Melbourne, Monash's Clayton campus combines a vibrant research, technology, and manufacturing precinct with first-rate sporting facilities, shops, a student centre, libraries, a post office, banks, medical services, and religious centres.

🔗 monash.edu/study/student-life

Support services

Monash helps students settle into university life by providing an extensive range of support programs and services including:

- Academic support
- Campus security
- Careers counselling
- Disability support services
- e-Research services
- Family support
- Monash Connect
- Skills Essentials seminars
- Wellbeing

Orientation

Our orientation service incorporates a series of programs to help students adjust to a new country and the Monash University environment.

¹ Economist Intelligence Unit 2011-2018.



Southbank



Australian native wildlife (Penguins)



Chadstone Shopping Centre

MONASH ENGINEERING

monash.edu/engineering

FACEBOOK

MonashEngineering

INSTAGRAM

@monashengineering

TWITTER

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YOUTUBE

youtube.com/monashengineering



MONASH UNIVERSITY

monash.edu

FIND A COURSE

monash.edu/study

FUTURE STUDENT ENQUIRIES

Australian citizens, permanent residents
and New Zealand citizens

monash.edu/study/contact

International students

T Australia freecall: 1800 MONASH (666 274)

T +61 3 9903 4788 (outside Australia)

E study@monash.edu



Monash is proud to have the following industry partners who support our students through scholarships, prizes, the Engineering Career Ready Series and Co-operative Education Internship Program:

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