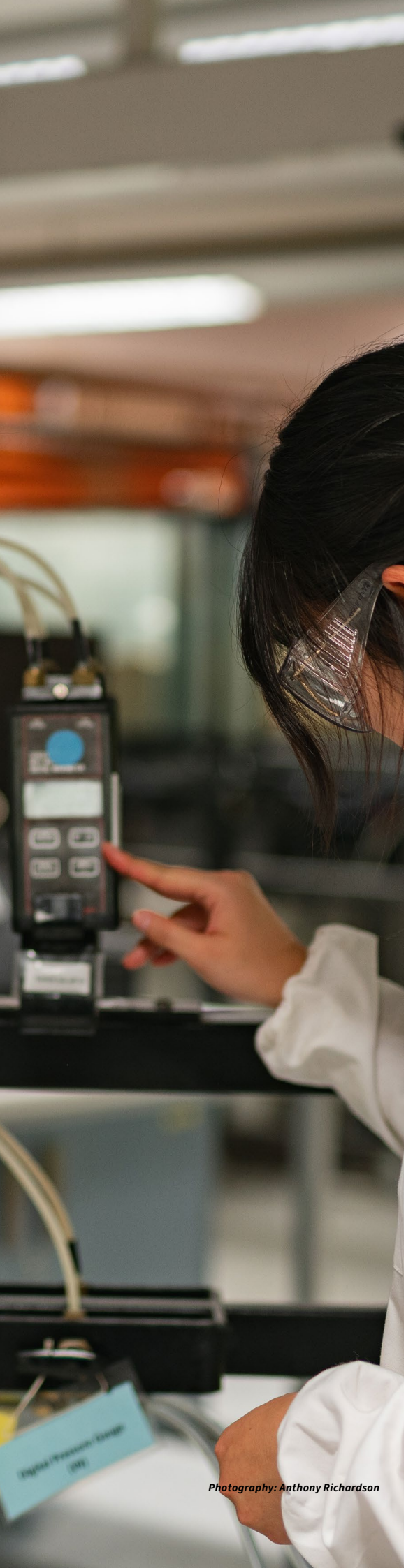
THE UNIVERSITY OF MELBOURNE

Faculty of Engineering and Information Technology

Graduate Study in Engineering and IT in 2027

Contents

Cover image: Anthony Richardson



Photography: Anthony Richardson

The Melbourne Advantage

#1 in Australia[1]

#1 for employer reputation[2]

[1] Times Higher Education World University Rankings 2026
[2] Quacquarelli Symonds (QS) World University Rankings 2027

#1 in Australia	**#31** globally	**for Computer Science and Information Systems**
#1 in Australia	**#31** globally	**for Data Science and Artificial Intelligence**
#1 in Australia	**#45** globally	**for Mechanical, Aeronautical and Manufacturing Engineering***

*2026 Quacquarelli Symonds (QS) World University Rankings by Subject

Be internationally recognised

Maximise your career opportunities around the world with globally recognised accreditation from Engineers Australia, Washington Accord and EUR-ACE®.

Be inspired by leading researchers

Learn from researchers who are globally recognised in their field. Our academics are working on ground-breaking innovations to solve some of society's biggest challenges, from developing epileptic seizure prediction devices to chemical blankets to protect coral reefs.

Connect with industry

Gain real-world experience through our industry-connected curriculum. Take part in internships, complete industry projects, undertake an innovation challenge with an industry mentor, and showcase your skills in our Endeavour Exhibition.

Melbourne Connect

Melbourne Connect is a purpose-built innovation precinct situated in the heart of the Melbourne Biomedical Precinct. It serves as a dynamic hub for digital talent, where companies of all sizes, graduates with specialised skills, emerging researchers, and visionary academics can come together.

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi Wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

Old Engineering Precinct

The Creator Space

Scan to learn more

The Creator Space offers various specialised areas dedicated to different aspects of the production cycle.

Spanning two floors, this space is equipped with 3D printers, laser cutters, electronics workbenches featuring oscilloscopes, functional generators, power suppliers, soldering stations, and a reflow oven for printed circuit boards.

Operated by industry professionals, the Creator Space offers equipment, training and support to assist you in transforming your ideas into prototypes.

The Creator Space is continuously evolving to meet the ever-changing demands of industry, ensuring that graduates are equipped with the latest fabrication methods and technologies.

Check out a virtual tour of the Creator Space here: **https://go.unimelb.edu.au/7djs.**

Photography: Michael Kai

Endeavour Exhibition

Scan to learn more

The Endeavour Exhibition is a showcase of industry and research projects created by our final year masters engineering and information technology students.

Masters students across the Faculty collaborate with our industry networks, government and research groups and community over the course of a semester or a year, to solve problems and discover new ways of working. You'll take what you learn in the classroom – and apply it to a real problem.

The exhibition showcase happens twice a year and we invite our partners, students and the public to meet our students and see their work.

There are industry and Faculty awards and prizes to recognise everyone's hard work on the projects and the public can get involved to choose a People's Choice Award winner.

Photography: Michael Kai

"Our device uses strings and compression springs to help open and close the hand. It makes life easier for the physiotherapist in a medical setting by helping the patients perform lots of repetitions."

Amelia, Misky and Manthila created a device for Endeavour that can help stroke patients perform rehabilitative exercises in a clinical setting.

Student experience

Co-curricular programs such as the Hackathon Festival and Case Competitions offer students a unique opportunity to collaborate in multidisciplinary teams, tackling real-world challenges.

Participants not only gain hands-on experience but also develop critical skills such as problem-solving, communication, and leadership.

These programs provide a platform for networking with industry professionals and peers and play an essential role in enhancing students' practical skills, preparing them to excel in a dynamic and competitive world.

Hackathon Festival

The Hackathon Festival provides Faculty of Engineering and Information Technology students with the opportunity to work in a multidisciplinary team to develop innovative solutions to industry challenges.

All attendees are eligible to win prizes throughout the competition. Participants can also gain recognition for their capability with a verified digital Melbourne Plus credential.

Engineering and Information Technology Experience Series

The Experience Series brings you events and initiatives that connect you with industry, enhance your professional and technical skills and bring you together with other students. Join us for our industry, professional and technical workshops, and wellbeing series.

Clubs and societies

Our student clubs bring together people who are passionate about engineering and information technology and want to make an impact. With over 200 clubs to choose from, you'll connect with people from a range of disciplines, cultural backgrounds and interests.

Some of our clubs include:

- Aerospace and Rocket Engineering Society (ARES)
- Computing and Information Systems Students Association (CISSA)
- Engineering discipline-based clubs
- Engineering Music Society
- Engineers Without Borders (University of Melbourne chapter)
- Melbourne University Biomedical Engineering Society (MUBES)
- Melbourne Space Program
- MUR Motorsports
- Engineering and IT Community
- Robogals
- Unimelb Rover Team
- Women in Science and Engineering (WISE)
- Women in Technology

Graduate Research Showcase

The FEIT Graduate Research Showcase connects top STEM research talent with industry leaders. This event offers graduate researchers an opportunity to showcase their work, network directly with industry and government partners, and accelerate their careers through internships, funded projects, and other professional engagement opportunities.

The showcase also serves as the final stage of the PhD Lab-to-Launch Competition, a flagship innovation and commercialisation program that translates research into real-world impact, where finalists compete for funding and progression opportunities.

Photography: Anthony Richardson

Internships and industry placements

Our industry-connected curriculum means you'll have the opportunity to gain real-world experience during your degree.

You could complete an industry project, take part in internships, undertake an innovation challenge with an industry mentor or connect with a Science, Technology, Engineering and Mathematics (STEM) mentor.

Internships

The internship subject is available to domestic and international students in selected Master of Engineering, Master of Information Technology and Master of Information Systems programs.*

- Undertake professional work experience for 10-16 weeks (approximately 320-350 hours).
- Gain credit towards your degree.
- Take part in workshops to improve your resume, develop your presentation skills and enhance your employability for the future.
- Explore international and domestic internship opportunities related to your discipline and career goals.
- Develop a competitive edge for the graduate job market and make yourself stand out amongst other candidates.

Industry connected curriculum

Complete a design or research project with industry and apply your knowledge to help solve a real-world problem:

- Available in the Master of Engineering suite, Master of Information Technology and Master of Information Systems.
- Undertake your project over the course of a semester, full-year or summer break.
- Develop a collaborative relationship with industry practitioners.
- Interdisciplinary Design for Engineers; this core subject offers insights into professional engineering. Students will gain hands-on design experience while addressing a complex real-world challenge.

STEM mentoring

Build professional networks, explore your career options and gain insight into the professional world of STEM with alumni mentors and industry professionals.

* Availability is subject to course requirements

Photography: Michael Kai

Quick reference guide

The Faculty of Engineering and Information Technology offers a range of coursework and research study options designed to prepare you to become a professionally qualified engineer or information technology professional. Whether you're looking to advance your skillset, switch career pathways or undertake research we offer full-time and part-time study options with Semester 1 (March) and Semester 2 (July) entry.

What is a specialisation?

A specialisation is an optional set of subjects within a particular field of your choosing that can complement your degree. They allow you to study subjects that are tailored to your preferred area of interest.

The timeline for choosing a specialisation can differ between courses. Most degrees ask you to choose your specialisation by your second year, however, some courses ask you to choose your specialisation at the time of application. As choosing a specialisation will impact all of your core subjects, for some courses it is advised to make a choice at the start of your degree.

Explore our professional entry engineering programs

Professional entry programs are for those seeking a professional qualification in engineering and are typically taken after completing undergraduate studies. This is how you become a qualified engineer.

Course	Minimum entry requirements	Duration	Course type
Master of Biomedical Engineering Optional specialisation: • Business	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Equivalent of two first-year science subjects (either 2 biology or 2 chemistry) OR one second-year engineering mathematics subject (equivalent to MAST20029 Engineering Mathematics) **Advanced standing/credit** Up to one year of credit will be awarded to students with a Biomedical Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Chemical Engineering Optional specialisations: • Business • Materials and Minerals • Sustainability and Environment	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Equivalent of two first-year chemistry subjects **Advanced standing/credit** Up to one year of credit will be awarded to students with a Chemical Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia • IChemE
Master of Civil Engineering Optional specialisations: • Business • Energy • Geotechnical • Structural • Transport • Ocean Engineering • Project Management • Water Resources	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Equivalent of two first-year science subjects (two physics, two biology, two chemistry or two computer science) **Advanced standing/credit** Up to one year of credit will be awarded to students with a Civil Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Digital Infrastructure Engineering Optional specialisations: • Artificial Intelligence • Business • Communication Infrastructure • Construction • Cultural Heritage • Energy • Information Systems • Information Technology • Land • Mobility • Smart Cities • Sustainable Cities • Water	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects (any) • Equivalent of two first-year science subjects **Advanced standing/credit** Up to one year of credit will be awarded to students with a Digital Infrastructure Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE • Engineers Australia (provisionally) • Surveyors Registration Board, Victoria

Course	Minimum entry requirements	Duration	Course type
Master of Electrical Engineering Optional specialisations: • Artificial Intelligence • Autonomous Systems • Business • Electronics and Embedded Systems • Low Carbon Power Systems	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Two first year physics subjects equivalent to Physics 1 and Physics 2 **Advanced standing/credit** Up to one year of credit will be awarded to students with an Electrical Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Environmental Engineering Optional specialisations: • Earth Observation • Energy Systems • Water Systems	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Equivalent of two first-year science subjects (two biology, two chemistry, two physics, two geosciences or two geography) **Advanced standing/credit** Up to one year of credit will be awarded to students with an Environmental Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Industrial Engineering	**Undergraduate degree with:** • Three-year undergraduate degree from the University of Melbourne in any engineering systems major • 65% weighted average mark **OR** • Four-year Bachelor of Engineering degree • 65% weighted average mark	2 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Mechanical Engineering Optional specialisations: • Aerospace • Business	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Two first year physics subjects equivalent to Physics 1 and Physics 2 **Advanced standing/credit** Up to one year of credit will be awarded to students with a Mechanical Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia
Master of Mechatronics Engineering	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2 • Two first year physics subjects equivalent to Physics 1 and Physics 2 **Advanced standing/credit** Up to one year of credit will be awarded to students with a Mechatronics Engineering Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • EUR-ACE® • Engineers Australia

Explore our advanced engineering programs

Advanced engineering programs are designed for qualified engineers looking to change their field of work or advance in their careers.

Course	Minimum entry requirements	Duration	Course type
Master of Energy Systems	**Undergraduate degree in a relevant discipline, such as commerce, science or engineering, and:** • 70% weighted average mark • Equivalent of one subject in Calculus 1, statistics or other quantitative subject • Two years of continuous, documented work experience in a relevant field if you have a weighted average mark of at least 65%	1.5 years full-time	Specialised masters
Master of Engineering Management Optional specialisations: • Change Management • Project Management	• Four-year undergraduate degree in engineering or relevant discipline • 65% weighted average mark **OR** • A three-year undergraduate degree in a relevant discipline with a 65% weighted average mark AND • At least two years of full-time documented, relevant work experience since graduation	1 year full-time	Specialised masters
Master of Engineering Structures	65% weighted average mark in a four-year civil or structural engineering undergraduate degree Civil engineering graduates must: • Have one year of relevant work experience, or • Have dedicated 30% of course to structural engineering subjects	1 year full-time	Specialised masters
Master of Environmental Systems Engineering	• Four-year undergraduate engineering degree • 65% weighted average mark **OR** • Three-year undergraduate degree in a relevant discipline • 65% weighted average mark • At least two years of full-time, documented and relevant work experience	1 year full-time	Specialised masters

Master of Medical Technology Innovation	• A bachelor honours degree (or equivalent) in a cognate (relevant) area such as engineering, biomedicine, business, commerce or law • 65% weighted average mark **OR** • A three-year undergraduate qualification plus at least 50 points of graduate-level study in a cognate (relevant) area • 65% weighted average mark **OR** • A three-year undergraduate qualification in a cognate (relevant) area plus two years of relevant work experience. • 65% weighted average mark	1 year full-time	Specialised masters

Explore our information technology and software engineering programs

Information technology and software engineering programs are for those seeking a professional qualification in information technology and are typically taken after completing undergraduate studies.

Course	Minimum entry requirements	Duration	Course type
Master of Computer Science	Undergraduate degree with a major in computer science, for example: • Computing and Software Systems major in the Bachelor of Science or the Bachelor of Design • 75% weighted average mark • At least 25 points of university level mathematics or statistics subjects	2 years full-time	Research pathway
Master of Data Science	**Undergraduate degree in computer science, data science** • 65% weighted average mark • Equivalent to one subject from computer science or related discipline, focusing on computer programming • Equivalent of two subjects of first-year mathematics (including Calculus 2)	2 years full-time	Specialised masters
Master of Information Systems	**Undergraduate degree with** • 65% weighted average mark **Advanced standing/credit** Up to six months of credit will be awarded to students with: • at least one year documented relevant work experience or; • Graduate Certificate in Information Systems Up to one year of credit will be awarded to students with: • Undergraduate degree in information systems and at least two years documented relevant work experience or; • a four-year bachelor honours degree in Information Systems	1-2 years full-time	Professional entry Accreditation: • Australian Computer Society
Master of Information Technology Optional specialisations: • Artificial Intelligence • Cybersecurity • Distributed Computing • Human-Computer Interaction	**Undergraduate degree with** • 65% weighted average mark • One technical tertiary level computer programming subject **Advanced standing/credit** Up to six months of credit will be awarded to students with: • Three-year undergraduate degree with a major in computer science, information technology, software engineering or related discipline Up to one year of credit will be awarded to students who have: • Four-year undergraduate degree with a major in computer science, information technology, software engineering or related discipline • Studies in the area of specialisation at an advanced undergraduate level or higher, **OR** • Two years of relevant, documented work experience in the area of specialisation	1-2 years full-time	Professional entry Accreditation: • Australian Computer Society
Master of Software Engineering Optional specialisations: • Artificial Intelligence • Business • Cybersecurity • Distributed Computing • Human-Computer Interaction	**Undergraduate degree with:** • 65% weighted average mark • Equivalent of 2 first-year mathematics subjects (any) • Equivalent of 2 first-year computing, programming or computer science subjects **Advanced standing/credit** Up to one year of credit will be awarded to students with a Computing and Software Systems major in their undergraduate degree	2-3 years full-time	Professional entry Accreditation: • Euro-Inf® • Australian Computer Society • Engineers Australia

Explore our graduate research programs

Course	Minimum entry requirements	Duration	Course type
Master of Philosophy (MPhil) **and** **Doctor of Philosophy (PhD)**	• Four-year undergraduate degree in a relevant discipline • Must include a substantial research component (equivalent of 25% of one year of full-time study) • 75% weighted average mark in the equivalent of penultimate and final year subjects **OR** • A masters degree in a relevant discipline • Must include a substantial research component (equivalent of 25% of one year of full-time study) • 75% weighted average mark **OR** • Qualification or professional experience considered to be equivalent	MPhil: 1.5-2 years full-time PhD: 3-4 years full-time	Research degree

Engineering programs

Master of Biomedical Engineering

Scan to learn more

Merge engineering precision with biological complexity. Design the devices, systems and therapies that keep people living longer, better and more independently.

What is biomedical engineering?

Biomedical engineering works at the intersection of engineering and biology, to understand and solve problems in medicine and human disease.

Biomedical engineers blend biomedical science with engineering techniques to create innovative healthcare solutions that improve and extend lives.

Where will this take me?

Biomedical engineers work in a range of industries, including biotechnology, government, health services, medical devices, pharmaceuticals and start-ups. As a biomedical engineer, you could design a medical device, solve clinical problems, develop next generation algorithms for imaging the body, or engineer tissues for wound healing.

Graduate employment

You could work in industry and the health sector at hospitals, biomedical institutes, medical agencies or governments. You'll be studying in the heart of the Melbourne Biomedical Precinct with the opportunity to meet and connect with startups and industry leaders.

Student projects

Design your own biomedical engineering instrumentation, from prosthetics to pacemakers, and use our state-of-the-art facilities to fabricate components. Work on projects such as monitoring the vital signs of patients, a diagnostic tool for stent selection, speech recognition software and more.

You could develop your entrepreneurial ability by collaborating with business students and medical sector mentors. The collaboration could see you bring a medical device to market with the BioDesign Innovation subject.

Visit **go.unimelb.edu.au/d9fi** to read about Ventora Medical, a classroom concept turned successful startup who have raised $1.25 million to help babies breathe.

Research examples

Drive research in medical technologies, tissue engineering, health informatics and healthcare delivery. Examples of biomedical engineering research include:

- Bionics
- Bioprinting and tissue engineering
- Orthopedic implants
- Biomedical imaging
- Biomicrosystems
- Health informatics.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Optional specialisation

- Business

Sample course plan

Master of Biomedical Engineering

If you have not completed a major in Biomedical Engineering Systems in your undergraduate degree, study the 3 year Master of Biomedical Engineering:

Year 1	Semester 1	Foundation Selective	Applied Computation in Bioengineering	Mechanics for Bioengineering	Circuits and Systems
	Semester 2	Foundation Selective	Anatomy and Physiology for Bioengineering	Introduction to Biomaterials	Biosystems Design

If you have completed a major in Biomedical Engineering Systems in your undergraduate degree, study the 2 year Master of Biomedical Engineering:

Year 2	Semester 1	Biomechanics	Bioengineering Data Analytics	Bioinstrumentation	Bioengineering Elective
	Semester 2	Biofluid Mechanics	Biosignal Processing	Interdisciplinary Design for Engineers	Bioengineering Elective
Year 3	Semester 1	Biomedical Engineering Capstone Project	Biomedical Engineering Management & Regulations	Bioengineering Elective	Approved Elective
	Semester 2		Bioengineering Elective	Bioengineering Elective	Approved Elective

Core subjects Elective subjects Selective subjects

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Master of Chemical Engineering

Scan to learn more

With a degree in chemical engineering, you'll help meet the world's growing need for food, energy and water, preserve the natural environment and manufacture the medicines and pharmaceuticals underpinning global health.

What is chemical engineering?

Chemical engineering is concerned with developing and fabricating products through chemical processes.

Chemical engineers change the world through the use of their knowledge of chemistry, biology, computation and engineering to meet the needs of our technological society.

- Focus on industrial-scale processes for converting raw waste materials into useful products, and learn how to simulate chemical processes.
- Apply your knowledge to areas such as fuel, plastics, food additives, fertilisers, paper and pharmaceuticals.
- Specialise in Business, Materials and Minerals or Sustainability and Environment during your studies to achieve your career goals.

Where will this take you?

As a chemical engineer, you might focus on traditional industrial-scale processes for converting raw materials into useful products, and emerging fields that depend on understanding chemical processes. You could apply your knowledge to areas such as fuels and renewable energy, plastics, food additives, fertilisers, mining and pharmaceuticals.

Research examples

Explore a diverse range of research applications across themes including, bioprocessing and food engineering, materials design and multiscale modelling, nano-medicine and biotechnology, and sustainable technologies, processing and remediation.

Examples of research in chemical engineering includes:

- Generating biofuels from algae
- Less waste in yoghurt production
- Keeping Antarctica clean
- Batteries that last longer.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE
- IChemE

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Sustainability and Environment
- Business
- Materials and Minerals

Sample course plan

Master of Chemical Engineering (Specialisation in Sustainability and Environment)

If you have not completed a major in Chemical Engineering Systems in your undergraduate degree, study the 3 year Master of Chemical Engineering:

Year 1	Semester 1	Engineering Mathematics	Fundamentals of Chemical Engineering	Material and Energy Balances	Interdisciplinary Design for Engineers
	Semester 2	Fluid Mathematics	Momentum, Mass and Heat Transfer	Digitisation in the Process Industries	Safety and Sustainability Case Studies

If you have completed a major in Chemical Engineering Systems in your undergraduate degree, study the 2 year Master of Chemical Engineering (Sustainability and Environment):

Year 2	Semester 1	Chemical Engineering Thermodynamics	Advanced Separation Processes	Reactors and Catalysis	Sustainable Bioprocessing
	Semester 2	Design and Construction of Equipment	Chemical Engineering Management	Wastewater and Environmental Remediation	Energy, Emissions and Pollution Control
Year 3	Semester 1	Process Engineering	Process Simulation and Control	Chemical Engineering Research Project or Internship	
	Semester 2	Chemical Engineering Design Project		Particle Technology	Chemical Engineering Elective

Core subjects **Elective subjects** **Selective subjects** **Specialisation subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Engineering programs

Master of Civil Engineering

Scan to learn more

Reimagine our growing cities with a degree in civil engineering. Prepare regions, cities and towns to handle increasing populations, finite resources and extreme events.

Strengthen your understanding of sustainable urban developments, environmental protection, resilient infrastructure design and the conservation of energy and water resources. You'll develop skills in structural, geotechnical, hydraulic and transportation engineering, as well as key knowledge in ports and harbour, energy, sustainability and project management.

What is civil engineering?

Civil engineers design, construct, maintain, and operate within the built and natural environments. This interdisciplinary field encompasses a wide range of components, including structural, geotechnical, water resources, transport systems, energy, business, and project management.

Where will this take you?

You could work as a civil engineer in industries such as aerospace, construction, oil and gas, transport and water resources. Our engineering graduates are working in organisations such as AECOM, BHP Billiton, City West Water, Golder Associates, Melbourne Metro Rail Authority and Shell.

As a civil engineer, you could work in urban development, transport and infrastructure, water resources and mining. You may be in a consulting role, or work as an engineering project manager.

Research examples

Our researchers contribute to the creation of sustainable infrastructure, delivering valuable benefits to the community, economy and environment.

Examples of research in civil engineering:

- Prefabricated housing
- Going underground for green energy
- How nanoclay stops cladding fires from spreading
- Building resilient bridges and tunnels
- Optimising traffic operation on our roads
- Planning and operating public transport systems.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Business
- Energy
- Geotechnical
- Ocean Engineering
- Project Management
- Structural
- Transport
- Water Resources

Sample course plan

Master of Civil Engineering

If you have not completed a major in Civil Engineering Systems in your undergraduate degree, study the 3 year Master of Civil Engineering:

Year 1	Semester 1	Engineering Risk Management	Sustainable Infrastructure Engineering	Engineering Mathematics	Fluid Mechanics
	Semester 2	Earth Processes for Engineering	Engineering Materials and Mechanics	Geotechnical Modelling and Design	Structural Theory and Design

If you have completed a major in Civil Engineering Systems in your undergraduate degree, study the 2 year Master of Civil Engineering:

Year 2	Semester 1	Structural Theory and Design 2	Transport Infrastructure Design	Engineering Site Characterisation	Geotechnical Engineering
	Semester 2	Engineering Project Implementation	Civil Hydraulics	Interdisciplinary Design for Engineers	Civil Engineering Elective
Year 3	Semester 1	Engineering Capstone Project Part 1	Integrated Infrastructure Design	Civil Engineering Elective	Civil Engineering Elective
	Semester 2	Engineering Capstone Project Part 2	Construction Engineering	Transport Systems	Civil Engineering Elective

Core subjects **Elective subjects** **Selective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Master of Digital Infrastructure Engineering

Scan to learn more

Capture, integrate and use data representing our environments, resources and infrastructure. You'll work with sensors and sensor platforms, design and use digital twins and create digital solutions for asset management, smart and sustainable cities and disaster management.

What is digital infrastructure engineering?

Digital infrastructure engineering combines engineering and information technology. Digital infrastructure engineers blend data capture, data science, and data analytics for digital systems representing our environments, resources, and infrastructure to drive sustainable outcomes for projects, ecosystems, and society. They capture digital infrastructure from phones, transport systems, satellites, and drones, and provide the insights into where we need resources, how we use services, how to make our cities more liveable, and how to respond to crises and disasters.

Where will this take me?

You could work globally across any industry that uses or produces digital spatial data and platforms. You might fly a drone throughout a city to create a heat map, use satellite imagery to assess a natural disaster and provide resources to those in need, or maintain a digital twin of a city for real-time resource management. Our graduates work in digital engineering companies like Veris, global mobility providers like Grab, state governments and emergency response services, and NGOs like the Humanitarian OpenStreetMap Team.

Research examples

Researchers in digital infrastructure are working to develop and navigate AI, IoT and digitalisation technologies to address our growing infrastructure needs. Some examples include:

- Earth Observation and AI for disaster management
- Data analysis for climate neutral urban mobility
- Taking a city's pulse: urban data analytics and digital twins
- Developing drivers for Smart Cities
- 3D land administration and positioning principles.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- EUR-ACE
- Engineers Australia (Provisional)
- Surveyors' Registration Board of Victoria

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

Artificial Intelligence, Business, Communication Infrastructure, Construction, Cultural Heritage, Energy, Information Systems, Information Technology, Land, Mobility, Smart Cities, Sustainable Cities, Water

Sample course plan

Master of Digital Infrastructure Engineering

If you have not completed a major in Digital Infrastructure Engineering Systems in your undergraduate degree, study the 3 year Master of Digital Infrastructure Engineering:

Year 1	Semester 1	Sustainable Infrastructure Engineering	Engineering Risk Management	Applying Digital Infrastructure	Imaging the Environment
	Semester 2	Digital Infrastructure Systems Capstone	Integrating Digital Infrastructure	Sensing and Measurement	Numerical Methods in Engineering

If you have completed a major in Digital Infrastructure Engineering Systems in your undergraduate degree, study the 2 year Master of Digital Infrastructure Engineering:

Year 2	Semester 1	Spatial Data Management	Interdisciplinary Design for Engineers	Spatial Data Analytics	Advanced Imaging
	Semester 2	Positioning Principles and Technologies	Building Information Modelling	Information Visualisation	Remote Sensing
Year 3	Semester 1	The Ethics of Artificial Intelligence	Engineering Capstone Project Part 1	Digital Infrastructure Engineering elective	Digital Infrastructure Engineering elective
	Semester 2	Engineering Project Implementation	Engineering Capstone Project Part 2	Digital Infrastructure Engineering elective	Digital Infrastructure Engineering elective

Core subjects **Elective subjects** **Selective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Engineering programs

Master of Electrical Engineering

Scan to learn more

Learn from leading experts in power systems, autonomous technologies and sensor energy-efficient networks that monitor the environment.

What is electrical and electronic engineering?

Electrical and electronic engineering is a field focused on designing, developing, and maintaining electrical systems and electronic devices. Electrical engineers work on all scales - from nano electronics to nationwide power grids. For example, as an electrical engineer you could:

- Develop new electronic materials that unlock high efficiency solar cells and new integrated circuits
- Design electrical and electronic devices and their algorithms to make smarter and higher performing systems
- Improve the operation of communication systems that connect and coordinate our daily operations.

These systems underpin much of modern society with key applications including renewable energy power grids, autonomous systems, wireless communication and wearable electronics.

Where will this take me?

As an electrical engineer, you have the opportunity to work across a diverse range of industries, including telecommunications, defense, energy, automation, and many more. Our graduates are working for companies such as Accenture, Deloitte, Google, Telstra and Tesla.

Research examples

Our researchers collaborate with industry and government in a wide range of areas, including communication systems and networks, control and signal processing, photonic and electronic systems, and power and energy systems. Here are some examples:

- 5G and the Internet of Things (IoT)
- Autonomous systems
- Next-generation solar cells
- Machine-learning in wireless spectrum allocation
- Renewable energy integration into power grids.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Artificial Intelligence
- Autonomous Systems
- Business
- Electronics and Embedded Systems
- Low Carbon Power Systems

Sample course plan

Master of Electrical Engineering (Specialisation in Autonomous Systems)

If you have not completed a major in Electrical Engineering Systems in your undergraduate degree, study the 3 year Master of Electrical Engineering:

Year 1	**Semester 1**	Foundations of Electrical Networks	Engineering Mathematics	Intro to Numerical Computation in C	Digital Systems
	Semester 2	Electrical Device Modelling	Electrical Network Analysis and Design	Signals and Systems	Electronic System Implementation

If you have completed a major in Electrical Engineering Systems in your undergraduate degree, study the 2 year Master of Electrical Engineering:

Year 2	**Semester 1**	Probability and Random models	Control Systems	Electronic Circuit Design	Introduction to Power Engineering
	Semester 2	Communication Systems	Signal Processing	Embedded System Design	Interdisciplinary Design for Engineers
Year 3	**Semester 1**	Engineering Capstone Project Part 1	Autonomous Systems Clinic	Advanced Signal Processing	Electrical Engineering Elective
	Semester 2	Engineering Capstone Project Part 2	AI for Robotics	Advanced Control Systems	Electrical Engineering Elective

Core subjects **Elective subjects** **Specialisation subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Master of Environmental Engineering

Scan to learn more

Improve the liveability of our cities and sustainability of our resources with a degree in environmental engineering. Tackle the challenges we face in water shortage, climate change and waste management.

What is environmental engineering?

Environmental engineering focuses on science and technology to protect our planet and make it a better place to live. Environmental engineers design and build sustainable solutions to tackle problems such as climate change, water scarcity, renewable energy, and bushfire management.

Where will this take me?

As an environmental engineer you could work in catchment management (e.g. Melbourne Water), conservation and natural resources (e.g. Alluvium Consulting), resource planning and management (e.g. Acciona), waste and water resources (e.g. Department of Environment, Land, Water and Planning), engineering consulting and more.

Research examples:

Some examples of the work our researchers are doing include:

- Exploring the birthplace of monster waves
- Taking the sludge out of wastewater
- Turning any water into drinking water
- Digital vineyards.

Student projects

Design and implement an environmental monitoring program. Take part in a five-day field camp and engage with consultants who work on projects around the world.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Earth Observation
- Energy Systems
- Water Systems

Sample course plan

Master of Environmental Engineering (Specialisation in Energy Systems)

If you have not completed a major in Environmental Engineering Systems in your undergraduate degree, study the 3 year Master of Environmental Engineering:

Year 1	Semester 1	Sustainable Infrastructure Engineering	Intro to Sustainable Water Management	Fluid Mechanics	Analysis of Biological Data
	Semester 2	Environmental Engineering Systems Capstone	Earth Processes for Engineering	Engineering Mathematics	Interdisciplinary Design for Engineers

If you have completed a major in Environmental Engineering Systems, study the 2 year Master of Environmental Engineering:

Year 2	Semester 1	Quantitative Environmental Modelling	Engineering Hydrology	Spatial Data Analytics	Water Planning and an Uncertain Future
	Semester 2	Monitoring Environmental Impacts	Environmental Analysis Tools	Civil Hydraulics	Environmental Systems Modelling and Design
Year 3	Semester 1	Engineering Capstone Project Part 1	Solar Energy	Energy for Sustainable Development	Solid Wastes to Sustainable Resources
	Semester 2	Engineering Capstone Project Part 2	Engineering Project Implementation	Energy Efficiency Technology	Environmental Engineering Elective

Core subjects **Elective subjects** **Specialisation subjects** **Selective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Master of Industrial Engineering

With a degree in industrial engineering, you'll gain skills to improve processes, service and systems in any industry sector across the world.

The Master of Industrial Engineering will give you advanced knowledge and skills in:

- Lean process and operations
- Manufacturing processes and technology
- Quality management and maintenance
- Industrial systems and simulation
- Automation and information technology
- Industrial digitalisation and optimisation
- Business management
- Sustainability and life cycle assessment.

What is industrial engineering?

Industrial engineering is the branch of engineering that involves figuring out how to make or do things better. Industrial engineers look at how to improve processes or design things that are more efficient and waste less money, time, raw materials, person-power and energy while achieving customer requirements and meeting regulatory obligations. You'll use knowledge and skills in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design for almost every industry sector from manufacturing to financial services and healthcare.

Where will this take me?

As an industrial engineer, you could work in a wide range of industries from manufacturing and processing to healthcare systems, banking and consulting. Our industrial engineering graduates work in companies such as Boeing, BYD, Coca-Cola, CSL and Hitachi.

Research examples

Our researchers are creating a competitive advantage across manufacturing and process industries by accelerating digital transformation and delivering holistic and integrated solutions for sustainable outcomes. Some examples of research in industrial engineering include:

- Sustainable manufacturing and life cycle engineering
- Digital transformation in industry
- Supply chain integration and resilience
- Innovative and integrated design for manufacturing.

Student experience

As an industrial engineering student, you will have access to a vast range of opportunities to network with industry, develop your professional skills and connect with a dynamic cohort of students from around the world. There are work-integrated learning projects so you can meet and work with industry partners or find a potential mentor. You'll be able to gain relevant industry experience while you study to ensure you're ready to work as a graduate engineer.

Key info

Duration

2 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Core subjects

The Master of Industrial Engineering is a two-year (full-time) program consisting of 14 core subjects and two elective subjects. Examples of your core subjects include:

Industrial Systems and Simulation

Gain exposure to real-world problems, participate in industry projects and engage with industry professionals through guest lectures.

Design and Manufacturing Practice

Work individually and in a team environment to design and manufacture a functional product.

Probability, Reliability and Quality

Use statistical methods to analyse different processes in hands-on projects and apply total quality management in real-world organisations.

Sample course plan

Master of Industrial Engineering

Year 1	Semester 1	Industrial Engineering	Design and Manufacturing Practice	Manufacturing Process and Technology	Supply Chain Management
	Semester 2	Industrial Systems and Simulation	Manufacturing Automation and Information Technology	Probability, Reliability and Quality	Interdisciplinary Design for Engineers
Year 2	Semester 1	Engineering Capstone Project Part 1	Optimisation for Industry	Economic Analysis for Engineers	Industrial Engineering Elective
	Semester 2	Engineering Capstone Project Part 2	Sustainable and Life Cycle Engineering	Industry Digital Transformation	Industrial Engineering Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Engineering programs

Master of Mechanical Engineering

Scan to learn more

Design and build tomorrow's machines and systems, from small scale devices to airplanes and spacecraft.

What is mechanical engineering?

Mechanical engineering focuses on turning energy into power and motion, spanning industries such as aeronautics, robotics and manufacturing.

Where will this take me?

As a Melbourne graduate, you'll be equipped to work as a mechanical engineer in industries such as aerospace, biomechanics, manufacturing, healthcare, weather and climate prediction, minerals, energy, robotics, transport and more. Our mechanical engineering graduates are working in companies such as Arup, CSIRO, BHP, Mars Australia, Telstra and Yarra Trams.

ARES

The Aerospace and Rocket Engineering Society (ARES) is the student engineering team who design, manufacture and launch high-powered rockets. The team comprises students from multiple disciplines, backgrounds, and nationalities across both undergraduate and postgraduate levels. ARES encourages students who are interested in aerospace and rocketry to join.

Facilities

You'll have access to world-class facilities including wind tunnels, alternative fuel engines, rehabilitation robots, UAV platforms and large-scale water management systems.

Research examples

Our researchers aim to solve important problems together with industry and the government to have a positive impact on people and the planet. Some of our current research areas include:

- Improving the efficiency of aircraft
- Sustainable shipping
- Design for circular economy
- Design of graphene membranes for desalination
- AI-assisted design of dental restorative materials.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Aerospace
- Business

Sample course plan

Master of Mechanical Engineering (Specialisation in Aerospace)

If you have not completed a major in Mechanical Engineering Systems in your undergraduate degree, study the 3-year Master of Mechanical Engineering

Year 1	Semester 1	Numerical Methods in Engineering	Engineering Mathematics	Foundations of Electrical Networks	Engineering Mechanics
	Semester 2	Mechanical Systems Design	Systems Modelling and Analysis	Thermodynamics and Fluid Mechanics	Mechanics and Materials

If you have completed a major in Mechanical Engineering Systems in your undergraduate degree, study the 2-year Master of Mechanical Engineering

Year 2	Semester 1	Dynamics	Thermodynamics	Materials Engineering	Design and Manufacturing Practice
	Semester 2	Control Systems	Fluid Dynamics	Solid Mechanics	Interdisciplinary Design for Engineers
Year 3	Semester 1	Engineering Capstone Project Part 1	Advanced Fluid Dynamics	Aerospace Dynamics and Control	Mechanical Engineering Elective
	Semester 2	Engineering Capstone Project Part 2	Aerospace Propulsion	Vibrations and Aeroelasticity	Mechanical Engineering Elective

Core subjects **Elective subjects** **Specialisation subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Master of Mechatronics Engineering

Scan to learn more

Blend mechanical, electrical and software engineering to develop automation and advanced manufacturing technologies.

What is mechatronics engineering?

Mechatronics drives the development of 'smart' computer-controlled products, such as robots, drones, automotive equipment and medical imaging systems.

Where will this take me?

You could work as a mechatronics engineer in industries such as aerospace, advanced manufacturing, computing and electronics, mining and robotics. Our engineering graduates work in organisations such as IBM, Telstra, Ford, KPMG and Alerte Digital Health.

Student experience

As a mechatronics engineering student, you'll have access to internships, use high level programming languages and benefit from world-class facilities, such as rehab robots, drone platforms and large-scale water management systems.

Robogals

Robogals Melbourne is a student-run volunteer initiative which aims to inspire, engage and empower young women into engineering and related fields by delivering interactive workshops for primary and secondary school students. Robogals is a great way to meet new people, learn great new skills (all training and equipment provided) and do something fulfilling and awesome in your spare time.

Research examples

Our researchers aim to solve important problems together with industry and the government to have a positive impact on the society. Some of our current research areas include:

- Physical human–robot collaboration, including rehabilitation robotics and prosthetic systems
- Cooperative aerial robotics
- Autonomous underwater robotics
- High-performance autonomous spacecraft
- AI-based algorithms for medical applications.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE

Fees

CSPs available
International and domestic full fee places available

Sample course plan

Master of Mechatronics Engineering

If you have not completed a major in Mechatronics Engineering Systems in your undergraduate degree, study the 3-year Master of Mechatronics Engineering

Year 1	Semester 1	Engineering Mathematics	Engineering Mechanics	Foundations of Electrical Networks	Intro to Numerical Computation in C
	Semester 2	Programming and Software Development	Systems Modelling and Analysis	Numerical Algorithms in Engineering	Mechanical Systems Design

If you have completed a major in Mechatronics Engineering Systems in your undergraduate degree, study the 2-year Master of Mechatronics Engineering

Year 2	Semester 1	Control Systems	Dynamics	Sensor Systems	Introduction to Machine Learning
	Semester 2	Embedded System Design	Analog and Digital Electronics Concepts	Mechatronics Systems Design	Interdisciplinary Design for Engineers
Year 3	Semester 1	Engineering Capstone Project Part 1	Elective	Elective	Elective
	Semester 2	Engineering Capstone Project Part 2	Elective	Elective	Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Advanced engineering programs

Master of Energy Systems

Scan to learn more

Tackle emerging energy issues and guide critical decision-making in the energy sector.

What is a Master of Energy Systems?

In the Master of Energy Systems, you'll learn to analyse energy systems from technical, commercial, and policy standpoints. This interdisciplinary approach enables you to explore financing, operations, and management strategies for energy systems. You will learn from experts in electricity generation, the transport sector, and energy networks, preparing you to tackle complex challenges in today's evolving energy landscape.

Where will this take me?

Our graduates work in a range of areas including electricity generation and retail, energy market analysis, and energy project development across both government and industry.

Energy systems project

You could choose to take the Energy Systems Project as an elective to work onsite at an organisation over three months to solve a real energy problem. You'll take on cross-disciplinary analysis and forge industry connections with energy companies, providers, distributors and market operators, or organisations specialising in alternative energy sources.

Key info

Duration

1.5 years

Intake

Semester 1 (March)

Designed for

Qualified engineers or other professionals who are looking to upskill in their career

Fees

International and domestic full fee places available

Sample course plan

Master of Energy Systems

Year 1	Semester 1	Introduction to Energy Systems	Analysing Energy Systems	Electrical Power Systems	Financial Management
	Semester 2	Dispatchable Generation and Storage	Renewable Energy	Energy System Models and Decision Making	Elective
Year 2	Semester 1	Energy Supply and Value Chains	Elective	Elective	Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

"I had a three-month industry placement working on solar resource assessment and modelling the performance of a solar PV system."

Ngoc Duy Nguyen Cao
Master of Energy Systems

Photography: Anthony Richardson

Advanced engineering programs

Master of Engineering Management

Scan to learn more

Fast-track your career in management, gain expertise in navigating organisational change and leading projects to achieve tangible results. You'll gain business skills to manage people, projects and resources in complex organisation settings.

Specialisations

You can undertake the Change Management stream to understand the legal, commercial, marketing and personnel issues that managers encounter in a technical environment.

Or you could focus on the Project Management stream to advance your understanding of project procurement, team leadership, risk management, communication, financial management and human resources.

Electives

- Supply Chain Management
- Management Competencies
- Accounting for Decision Making
- Business Analysis and Decision Making
- Financial Management
- Managerial Economics
- Operations and Process Management
- Human Resource Fundamentals

Key info

Duration

1 year

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Qualified engineers or other professionals who are looking to upskill in their career

Fees

International and domestic full fee places available

Core subjects

Project Management subjects

Choose two of:

- Sustainable Infrastructure Engineering
- Project Management Practices
- Engineering Project Implementation
- Engineering Contracts and Procurement
- Transport System Modelling
- Engineering Risk Management.

Change Management subjects

Choose two of:

- Management and Leadership for Engineers
- Building Information Modelling
- Managing Change for IS Professionals
- Engineering Entrepreneurship
- Probability, Reliability and Quality.

Photography: Anthony Richardson

"I was able to bridge the gap between my technical expertise and management skills so I could be more effective as a project manager."

Norman Audric Castro
Master of Engineering Management

Sample course plan

Master of Engineering Management (Specialisation in Change Management)

Year 1	Semester 1	Change Management elective	Change Management elective	Management elective subject	Management elective subject
	Semester 2	Strategic Management	Engineering Management capstone	Change Management elective	Management elective subject

Core subjects Elective subjects Specialisation subjects

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Advanced engineering programs

Master of Engineering Structures

Scan to learn more

What is a Master of Engineering Structures?

The Master of Engineering Structures is a specialised masters course, designed to help qualified engineers advance their career. This qualification prepares graduates for senior roles in structural engineering and related industries.

You'll explore key themes such as structural systems, conceptual design, sustainable design, extreme loading and advanced analysis techniques.

Your subjects and lectures will be guided by specialists in infrastructure design, with expertise in earthquake, collision and blast-resistant technologies. With in-house and guest seminar experts on leading structures research topics, you'll be able to undertake an infrastructure engineering research subject and complete simulated structures design exercises in collaboration with experienced senior engineers.

Key info

Duration

1 year

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Qualified engineers or other professionals who are looking to upskill in their career

Fees

International and domestic full fee places available

Sample course plan

Master of Engineering Structures

Year 1	Semester 1	High Rise Structures	Earthquake Resistant Design on Buildings	Extreme Loading and Structural Resilience	Infrastructure Engineering Elective
	Semester 2	Steel-Composites in Modern Construction	Design of Sustainable Structures	Structural Dynamics in Practice	Infrastructure Engineering Elective

Core subjects Elective subjects Selective subjects

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

"Subjects such as Structural Dynamics were useful as they were focused on hands-on projects that could be dealt with in the normal life of a structural engineer. High-Rise buildings and Extreme Loadings, showed new structural design approaches."

Alberto Escobar Montero
Master of Engineering Structures

Photography: Anthony Richardson

Advanced engineering programs

Master of Environmental Systems Engineering

Scan to learn more

Gain advanced knowledge in sustainable development and environmental management.

Gain the advanced knowledge and practical skills to address some of the world's most pressing environmental challenges. Explore issues such as climate change, water security, sustainable energy and waste management.

Combining technical expertise with systems thinking, this specialist degree prepares you to design, analyse and implement sustainable solutions. You'll learn how to balance environmental, social and economic outcomes while driving positive change.

Elective focus:

Waste management

- Environmental Management
- Engineering Hydrology
- Infrastructure Engineering Research Project
- Solid Wastes to Sustainable Resources
- Water and Waste Water Management.

Energy

- Energy Efficiency Technology
- Energy for Sustainable Development
- Infrastructure Engineering Research Project
- Solar Energy
- Sustainable Buildings.

Water resources

- Infrastructure Engineering Research Project
- International River Basin Management
- Water and Waste Water Management
- Engineering Hydrology
- Computational Fluid Dynamics.

Or, choose one approved elective, such as:

- Remote Sensing
- Foundations of Spatial Information
- Information Visualisation
- Advanced Imaging
- Applications in Precision Agriculture
- Project Management Practices
- Engineering Contracts and Procurement
- Metocean Engineering
- Port Access and Navigation
- Dredging Engineering
- Leadership for Innovation
- Internship
- International River Basin Management
- Advanced Hydrological Solutions
- Hydrogeology & Environmental Geochemistry.

Where will this take you?

Graduates can pursue careers in environmental consulting, water and wastewater management, renewable energy, sustainability, environmental regulation and infrastructure planning. The program develops expertise in environmental modelling, impact assessment and sustainable infrastructure. You'll graduate prepared to help organisations solve complex environmental challenges and create more sustainable systems for the future.

Key info

Duration

1 year

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Qualified engineers or other professionals who are looking to upskill in their career

Fees

International and domestic full fee places available

Photography: Anthony Richardson

"The program equipped me with practical skills. In the modelling and spatial-related courses, I acquired a comprehensive understanding of the modelling process—from conceptualisation to calibration and validation."

Abi Satria Praga
Master of Environmental Systems Engineering

Sample course plan

Master of Environmental Systems Engineering

Year 1	Semester 1	Quantitative Environmental Modelling	Water Planning and an Uncertain Future	Focus elective	Focus elective
	Semester 2	Monitoring Environmental Impacts	Environmental Analysis Tools	Focus elective	Approved Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Advanced engineering programs

Master of Medical Technology Innovation

Scan to learn more

Become a leader in one of the world's fastest-growing and most impactful industries. The new Master of Medical Technology Innovation combines innovation, commercialisation and entrepreneurship at the intersection of engineering, science, medicine and business.

Designed for professionals and graduates looking to drive change in healthcare, this intensive program will equip you with the skills to develop, regulate and bring new medical technologies to market. A defining feature of the course is the BioDesign Innovation capstone, where you'll work on developing a real-world medical device from concept through to commercialisation.

Student experience

Study in the heart of the Melbourne Innovation and Biomedical Precincts and learn directly from industry leaders, clinicians, researchers and entrepreneurs. You'll have opportunities to engage with hospitals, MedTech companies and research institutes while building practical skills in innovation and product development.

Who is this for?

This program equips you with strong technical foundations alongside the entrepreneurial mindset needed in the MedTech sector. You do not need to have prior experience in the MedTech field to be eligible for this course.

It is designed for:

- Graduates from engineering, science, biomedicine, business, law and health disciplines
- Early- to mid-career MedTech professionals
- Aspiring entrepreneurs and startup founders
- Healthcare professionals seeking to integrate technology
- Students interested in combined biomedical sciences and MedTech programs.

Where will this take you?

Graduates may pursue careers in:

- Medical technology and device companies
- Healthcare innovation and consulting
- Research and development
- Regulatory affairs and clinical trials
- MedTech startups and entrepreneurship

Victoria's MedTech sector is expected to grow significantly, creating strong demand for graduates with expertise in innovation, regulation and commercialisation.

Key info

Duration
1 year full time

Intake
Semester 2 (July)

Designed for
Graduates and professionals looking to innovate in healthcare and medical technology

Fees
Domestic full fee places available only

Sample course plan

Master of Medical Technology Innovation

Year 1	Semester 2	Introduction to Medical Technology	BioDesign Innovation Needs Discovery	Elective	Elective
	Semester 1	Biomedical Engineering Management and Regulations	BioDesign Innovation Concept Development		

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

This sector is expected to grow by 18% between 2022–2027. Currently, it generates $21.4 billion in revenue annually, and supports over 31,400 jobs across 650 companies. Alongside this, the global MedTech market is expected to reach USD $814 billion by 2031.

IT and software engineering programs

Master of Computer Science

Scan to learn more

Keep up with the rapid advances in the field of computer science while completing a major research project on your pathway to PhD study or a research-oriented industry position.

Whether you're interested in AI solutions, app development, gaming, productivity software, databases, fintech or web development, there's a place for you in the computer science ecosystem.

What is computer science?

Computer science combines technical elements from information technology and analytical skills from information systems. It underpins virtually all modern technology from mobile applications and cloud computing to autonomous vehicles and medical imaging, making it one of the most impactful disciplines in the modern world.

Where will this take you?

The Master of Computer Science equips you with the advanced technical skills and research capabilities needed to thrive in an AI-driven global landscape. Graduates go on to pursue PhD research or build successful careers across a wide range of fields, including AI, software engineering, cybersecurity, and intelligent information systems.

Computer Science Research Project

Your Computer Science Research Project is an independent piece of research you can do with the support of an academic supervisor. You could work in areas like:

- Forest Crime Policing: Help protect Victorian rare or threatened species using selective sound monitoring devices to identify the hotspots affecting animal behaviour and habitats.
- 3D object recognition in autonomous driving: Self-driving cars are becoming more accessible, and you can be a part of developing the software to help autonomous vehicles navigate adverse visibility conditions.
- Design empathetically responsive voice assistants: Technology can help many people in different ways. You can develop software programs that will make voice assistants accessible, empathetic and responsive.
- Cane toad modelling in Australia: Australia's native ecosystems are precious and you could develop multiscale modelling to monitor invasive species like the cane toad and protect our natural environment.
- Measuring and mitigating gender bias in natural language processing: Machine learning relies on the data models that are programmed into it and you can make sure that they're representative of the real-world through monitoring data elements like gender bias, language and communication styles.

Key info

Duration

2 years

Intake

Semester 1 (March)

Designed for

Students who have a computer science background and the desire to get research experience

Fees

CSPs available
International and domestic full fee places available

Explore a Graduate Diploma in Computer Science

Study a one-year Graduate Diploma in Computer Science with any undergraduate degree and some programming/maths experience, and gain the equivalent of a major in computer science.

Sample course plan

Master of Computer Science

Year 1	Semester 1	AI Planning for Autonomy	Introduction to Machine Learning	The Ethics of Artificial Intelligence	Statistical Machine Learning
	Semester 2	Declarative Programming	Research Methods	Computer Vision	Machine Learning Applications for Health
Year 2	Semester 1	Computer Science Research Project Part 1		Computer Science Research Project Part 2	
	Semester 2	Computer Science Research Project Part 3		Computer Science Research Project Part 4	

Core subjects Elective subjects

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

IT and software engineering programs

Master of Data Science

Scan to learn more

Develop the technological abilities and analytical skills to manage and gain insights from large and complex collections of data.

Use statistics tools and methods for in-depth analysis and solve problems using data. The Graduate Diploma in Foundational Data Science is also available as a pathway and you could be eligible for course credit.

What is data science?

The management and analysis of big data are becoming increasingly important in commerce, industry and applied science. Due to the rapid development of technology, massive amounts of data are routinely collected from an increasing number of new devices and sensors. Data science is a rapidly growing field sitting at the intersection of statistics and computer science that has evolved to address the need to organise, analyse and interpret data sets in many fields including biology, engineering, economics and finance.

Where will this take you?

Our graduates go on to work as data scientists and analysts, software engineers, data infrastructure engineers, business intelligence analysts and statisticians.

Key info

Duration

2 years

Intake

Semester 1 (March)

Designed for

Students with a background in data science, computer science or statistics

Fees

CSPs available
International and domestic full fee places available

Sample course plan

If you have a computer science background, but do not have a statistics background:

Year 1	Semester 1	Methods of Mathematical Statistics		Advanced Database Systems	Cluster and Cloud Computing
	Semester 2	A First Course in Statistical Learning		Computational Statistics and Data Science	Multivariate Statistics for Data Science
Year 2	Semester 1	Statistical Modelling for Data Science	Capstone Project	Elective	Elective
	Semester 2	Statistical Machine Learning		Elective	Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

Sample course plan

If you have a statistics background, but do not have a computer science background:

Year 1	Semester 1	Programming and Software Development	Algorithms and Complexity	Elements of Data Processing	Elective
	Semester 2	Multivariate Statistics for Data Science	Computational Statistics and Data Science	Database Systems and Information Modelling	Elective
Year 2	Semester 1	Statistical Modeling for Data Science	Cluster and Cloud Computing	Capstone Project	Elective
	Semester 2	Statistical Machine Learning	Advanced Database Systems		Elective

Core subjects **Elective subjects**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

IT and software engineering programs

Master of Information Systems

Scan to learn more

Design intelligent and efficient information systems that harness emerging technologies – including artificial intelligence, data analytics and automation – while aligning with real-world business processes.

Acquire digital business and teamwork skills while maximising your career opportunities with international accreditation.

What is a Master of Information Systems?

The Master of Information Systems develops your ability to analyse complex problems, think critically and communicate effectively in a world where digital and AI-driven solutions are reshaping organisations. You will build a skill set that spans business, ICT and applied AI. By the end of the course, you will be able to explain and justify information technology and AI management decisions to both technical and non-technical stakeholders.

Where will this take you?

With information systems, you will connect the technological potential of software, data and AI with the business problems that need solving and the processes that need improving. This means you can work in virtually any industry that uses – or could benefit from – digital and AI-enabled solutions. You could pursue a career in process design, consulting or project management. Combine your knowledge in data science, data visualisation and computing to improve how we use technology.

Course structure

You can focus your studies to gain practical experience with a capstone project or a research project. This gives you the opportunity to:

- Undertake internships with organisations exploring AI, analytics and digital transformation
- Work on technology innovation projects with industry partners, including AI-enabled solutions
- Engage in research on topics such as responsible AI, digital transformation or information governance.

Throughout the course, you will work on practical, industry-relevant problems, equipping you to design, implement and manage information systems in an increasingly AI-driven world.

Key info

Duration

1-2 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Students from any undergraduate background

Fees

CSPs available
International and domestic full fee places available

Sample course plan

Master of Information Systems

Year 1	Semester 1	Concepts in Information Systems	Database Systems and Information Modelling	Digital Business Analysis	Introduction to Programming
	Semester 2	Cyber Security Management	Professional IS Consulting	Skills for IS Research and Development	Elective
Year 2	Semester 1	Information Technology Project and Change Management	Enterprise Applications & Architectures	Elective	Elective
	Semester 2	IS Strategy and Governance	Capstone Project selective		Elective

Core subjects Elective subjects Capstone

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

IT and software engineering programs

Master of Information Technology

Scan to learn more

Gain the knowledge and experience to lead IT and AI-enabled innovation that can be applied to business, government, health, entertainment and more.

Grow your skills in IT project and change management, risk management, quality assurance and testing.

Develop fundamental technical skills that will remain valuable as new technologies emerge.

What is a Master of Information Technology?

The Master of Information Technology is for students who want to gain advanced technical IT skills and expertise in artificial intelligence, computing, cybersecurity, distributed computing or human-computer interaction. You'll be equipped to create technical solutions and drive success in business, government, health, entertainment, society and more.

Where will this take you?

Build a career as an AI engineer, app developer, data analyst, digital copywriter, games developer, information technology consultant, data scientist and more. If you focus on information technology, you can build the technical and AI skills that help us understand, develop and responsibly apply new technologies.

Research examples

Our information technology graduates are conducting research on issues such as:

- Ageing in a virtual world
- Digital connectivity, crime and privacy
- Greener cloud computing
- Machine learning.

Student experience

Engage with technologies such as artificial intelligence, cybersecurity, virtual and augmented reality, computer games, and AI-enabled software systems.

Key info

Duration

1-2 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Students with some programming background who want to qualify as an information technology professional

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Artificial Intelligence
- Cybersecurity
- Distributed Computing
- Human-computer Interaction

Master of Artificial Intelligence (Online)

Study our 100% online Master of Artificial Intelligence. Learners develop an AI-expert mindset, gain technical and strategic AI knowledge, and build a flexible toolkit for applying AI across industries and roles.

Master of Cyber Security (Online)

Study our 100% online Master of Cyber Security. Learn to navigate and defend against the evolving cyber landscape, including the impact of AI. You'll build the skills to protect systems, organisations, and communities in an increasingly digital world.

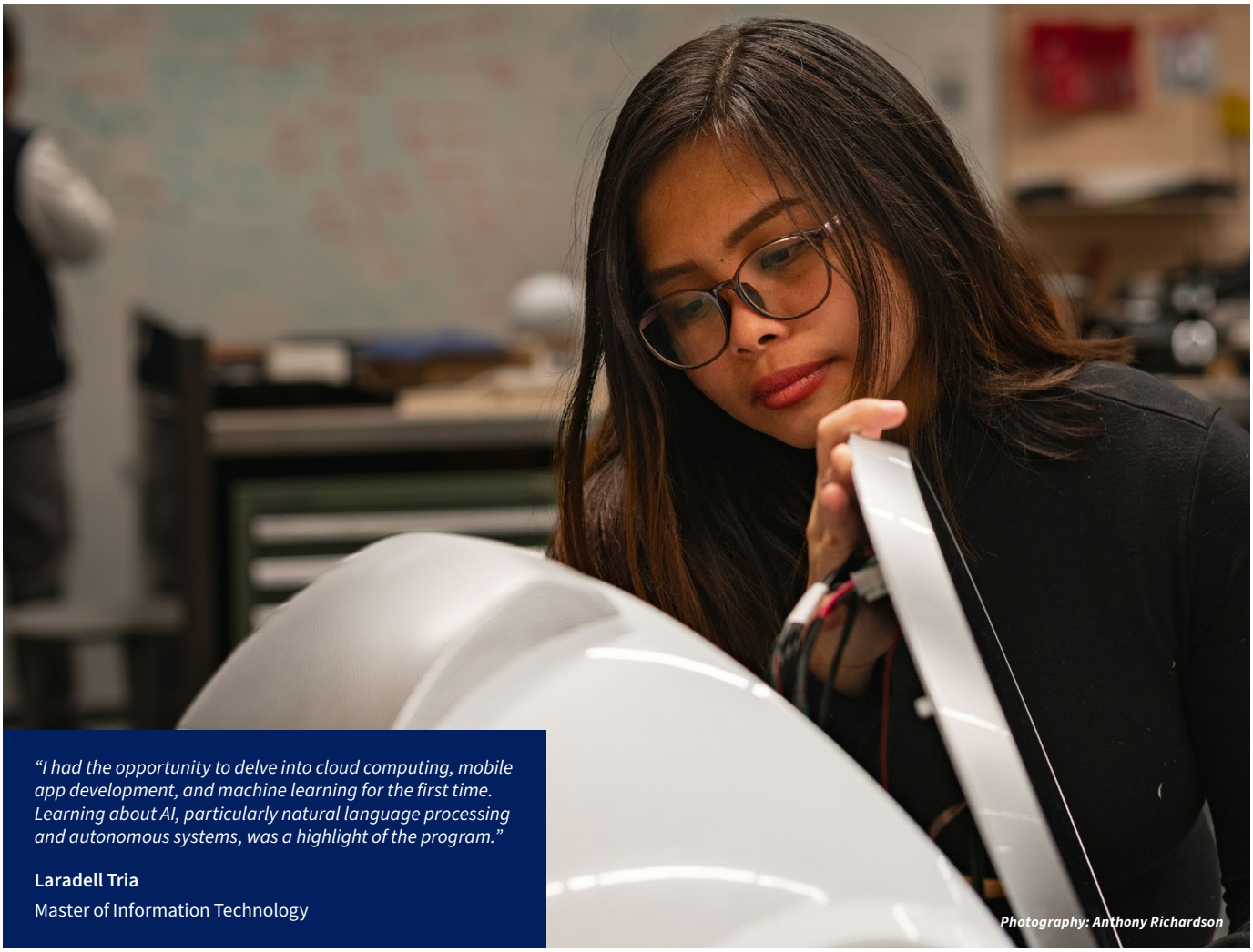
Sample course plan

Master of Information Technology (with Cyber Security specialisation)

Year 1	Semester 1	Internet Technologies	Programming and Software Development	Algorithms and Complexity	Database Systems and Information Modelling
	Semester 2	Cyber Security Management	Cryptography and Security	Security and Software Testing	Introduction to Machine Learning
Year 2	Semester 1	The Ethics of Artificial Intelligence	Research Project OR Technology Project OR Software Project		High Integrity Systems Engineering
	Semester 2	Business Practicum	Software Processes and Management	Web Security	Trustworthy Machine Learning

Foundation subject **Specialisation core** **Specialisation elective** **Computing and Information Systems elective**

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.



"I had the opportunity to delve into cloud computing, mobile app development, and machine learning for the first time. Learning about AI, particularly natural language processing and autonomous systems, was a highlight of the program."

Laradell Tria
Master of Information Technology

Photography: Anthony Richardson

Optional specialisations in the Master of Information Technology

In the Master of Information Technology students may choose not to specialise and use elective subjects to develop skills for a career in app development, data analytics, game development and more. Or you may choose one of the following optional specialisations:

Specialisation	Overview	Focus on	Career opportunities
Artificial intelligence	Develop expertise in the design, implementation and analysis of systems that learn, plan and reason.	• Knowledge representation and planning • Machine learning • Data mining • Digital ethics • Security analytics	• Artificial Intelligence, machine learning and data science • Deep learning • Data mining • Business and data analytics
Cybersecurity	Discover how to create new technologies to improve existing security and minimise vulnerability in design systems.	• Software vulnerability discovery • Cryptography • Secure systems design and verification • Security analytics	• Security analytics, software and auditing • Cryptography • Forensics • Incident response • Network security
Distributed computing	Learn to manage large quantities of data through networked computers.	• Mobile computer systems programming • Cloud computing • High performance computing • Distributed algorithms • Parallel computing	• eBusiness and cloud computing • Mobile systems programming • Sensor networks
Human-computer interaction	Work with novel, interactive tech with systems people can use with intuitive user interfaces and evaluate different prototypes.	• User experience • Interaction design • Social computing • Information architecture • Ubiquitous computing	• UI development and engineering • VR, AR web and other information technology product design

IT and software engineering programs

Master of Software Engineering

Scan to learn more

Learn to design, build, and manage complex software systems- from large-scale enterprise platforms to AI-enabled applications- using rigorous scientific and engineering principles.

Guided by leading experts, you'll develop skills across the full lifecycle of system building, including requirements engineering, system design, implementation, testing, deployment, and security. You'll also learn to apply software engineering practices to AI systems, alongside modern AI-assisted software development and contemporary tools, preparing you to lead in an AI-driven world.

What is software engineering?

Software engineering is the foundation and practice of designing and building complex and reliable digital systems from everyday apps to AI-powered platforms. It combines programming, system design, and problem-solving to create reliable, scalable, and intelligent software that drives innovation across industries, going beyond what AI alone can deliver.

Where will this take me?

Develop the advanced technical expertise, teamwork and communication skills to keep you agile in a rapidly evolving, AI-infused software industry and graduate with an internationally recognised qualification.

As a software engineer, you could work in:

- Banking and finance, developing secure, data-intensive and AI-enabled systems
- Technology consulting, advising organisations on digital modernisation and AI-driven solutions
- Health and biomedical technology, building reliable software for clinical and diagnostic systems
- Emerging areas such as cloud platforms, cybersecurity, data engineering and MLOps.

This degree equips you to lead and contribute to software projects where advanced engineering and AI capabilities are central to innovation and impact.

Optional specialisations

The program allows you to deepen your expertise and foundations through focused specialisations:

- **Artificial Intelligence:** Develop AI agents, machine learning, data-driven methods, and responsible AI practices.
- **Business:** Apply software engineering skills to business contexts, supporting digital transformation and data-informed decision-making.
- **Cybersecurity:** Design and build secure software systems, addressing threats, privacy, and risk in modern digital environments.
- **Distributed Computing:** Engineer scalable, reliable systems across cloud and distributed platforms.
- **Human–Computer Interaction:** Design intuitive, user-centred interfaces and intelligent user experiences.

Key info

Duration

2-3 years

Intake

Semester 1 (March)
Semester 2 (July)

Designed for

Becoming an accredited engineer

Accredited by

- Engineers Australia
- EUR-ACE
- Euro-Inf
- Australian Computing Society

Fees

CSPs available
International and domestic full fee places available

Optional specialisations

- Artificial Intelligence
- Business
- Cybersecurity
- Distributed computing
- Human-computer interaction

Sample course plan

Master of Software Engineering

If you have not completed a major in Computing and Software Systems in your undergraduate degree, study the 3 year

Year 0	Semester 1	Object Oriented Software Development	Database Systems	Design of Algorithms	Software Engineering elective
	Semester 2	Interdisciplinary Design for Engineers	Software Modelling and Design	Models of Computation	Software Engineering elective

If you have completed a major in Computing and Software Systems in your undergraduate degree, study the 2 year

Year 1	Semester 1	Software Requirements Analysis	Software Processes and Management	Modelling Complex Software Systems	Computer Systems
	Semester 2	Masters Software Engineering Project	Security and Software Testing	Software Engineering elective	Software Engineering elective
Year 2	Semester 1	Masters Advanced Software Project	High Integrity Systems Engineering	Software Engineering elective	Software Engineering elective
	Semester 2		Software Design and Architecture	Software Engineering elective	Software Engineering elective

Core subjects Elective subjects Selective subjects

These are sample course plans only. Subjects offered may change from year to year. You will be advised of current subject offerings prior to subject selection and enrolment.

“My degree gave me the tools to build software that solves user problems. I also got a foot in the door with industry through the internship subject which gave me a leg up when securing my current job at Canva.”

Zachary Ho

Master of Software Engineering

Photography: Anthony Richardson

Engineering and Information Technology research degrees

Scan to learn more

Join an environment of cross-disciplinary research excellence and work alongside researchers who are creating technological solutions to global challenges.

As a Melbourne graduate research student, you'll carry out an independent and sustained research project under the supervision of world-class researchers. You'll have access to multiple opportunities to shape your future as an academic, industry professional or entrepreneur. You can engage in internships, undertake specialist professional development for researchers and showcase your work at conferences and networking events. Combined with the infrastructure, supervisory and collegial expertise in your lab/workshop/centre and our commitment to foster innovation and sustainability, you will forge the next stages of your career.

Research disciplines

Discipline	Research themes	Our graduate research students work on
Biomedical engineering	• Biomaterials and Tissue Engineering • Biomechanics and Mechanobiology • Biomedical Imaging • Neural Engineering • Systems and Synthetic Biology • Biomicrosystems	• Multi-scale cardiac mechanobiology and systems biology • Biofabrication and matrix mechanobiology of cartilage tissue models • Developing advanced biomaterials for stem cell manufacturing and tissue engineering applications • Use of Deep Learning computational methods to characterise cancer burden in PET imaging • Novel electrodes for brain computer interfaces • Transcranial magnetic brain stimulation for depression • Wearable assistive technologies to enhance performance and mitigate injury
Chemical engineering	• Electrochemistry • Materials development • Separations technology • Surface chemistry and rheology • Bioprocessing	• Next-generation fertilisers • Digital bioprocessing, including mechanistic and AI models of biopharmaceutical manufacturing processes • Green hydrogen production and conversion to future fuels • Water and energy-efficient mineral processing • Advance polymeric synthesis and their uses in tissue engineering, drug delivery, and other industrial applications
Computing and information systems	• Artificial Intelligence • Computer Science • Human-Computer Interaction • Information Systems	• Machine Learning • Generative AI • Efficient Cloud Computing • Information Security Management • Algorithms • Health Informatics and Digital Health • Ethics and Societal Impact of IT • Games, Play, and Extended Reality
Electrical and electronics engineering	• Communications and networks • Control and signal processing • Photonic and electronic systems • Power and energy systems	• Games, machine learning, and coding for wireless communications • Optical communication systems – access networks, human-to-machine, hybrid fibre-wireless • Nano-wire, nano-photonic devices and chiral light matter interactions • Real-time simulation and optimisation of smart distribution systems • Estimation and control for robotic systems • Networked control systems • Integrating communications and sensor technologies • Integrated planning of electricity-gas-hydrogen systems • Optimisation and ML for Industry 4.0 • Optimisation and control of community energy systems and microgrids • Quantum machine learning
Infrastructure engineering	• Civil engineering • Geomatics • Environmental hydrology and water resources	• Life-cycle structures protection and management • Engineering physical and data infrastructures to harness ocean wind power • New and emerging technologies for design, operation, and management of transport systems • 3D digital mapping for land and property • Urban analytics, sustainability and smart city • Sustainable management of water and energy in changing climate • Emerging Earth observation technologies and sustainable solutions to environmental challenges
Mechanical engineering	• Biomechanics • Design and Systems Engineering • Fluid Dynamics • Manufacturing and Industrial Engineering • Material Design and Engineering • Robotic and Autonomous Systems • Thermodynamics	• Human and animal biomechanics • Human and planet centred product design • Air-sea interaction • Assistive and rehabilitation robotics • Low emission transport • Dexterous robotic hands and neuroprostheses • Modelling and experimentation of production variability • Modular product design and optimisation • Cutting edge energy systems • Design of graphene membranes for desalination • Computing mechanical properties of material defects • Fluid mechanics in the reduction of airborne infectious viral load

Master of Philosophy

Duration: Typically 1.5 years full-time

Doctor of Philosophy (PhD)

Duration: Typically at least 3-3.5 years full-time

How to apply

Applications can be submitted at any time, but make sure to check the deadlines for each scholarship selection round. You must secure an academic supervisor prior to making an application and supply documented evidence.

For more information, go to **go.unimelb.edu.au/439r**

Finding a project/supervisor

To search for available PhD projects and supervisors, go to **findanexpert.unimelb.edu.au**

Entry requirements

You need:

- A qualification from a University with a well-recognised research profile
- Documented support of a University of Melbourne academic to supervise your project
- Evidence of completing a research project that accounts for at least 25% of one year's work at fourth year Bachelor or Masters level
- A weighted average mark equivalent to the University of Melbourne's 75% is the minimum entry requirement. However, an average mark of 80-85% is more competitive for scholarships. Please note that "competitive grades" do not guarantee admission.

Scholarships

You'll be automatically considered for many scholarships when you apply, and there are other scholarships or awards that may require a separate application.

Melbourne Research Scholarship

All applicants are automatically considered for the Melbourne Research Scholarship. This scholarship provides a living allowance for up to 3.5 years, fee remission for up to 4 years, relocation allowance, and overseas health cover for international students. To view the full benefits of the scholarship, go to **https://go.unimelb.edu.au/42fr**

Featured research: Tomorrow's Turbine

This research explores the pivotal role of supercomputers in advancing gas turbine technology amid the global shift towards sustainable energy.

Recent advancements in supercomputing enable high-fidelity simulations that offer detailed insights into the turbulent airflow dynamics within gas turbines. This project focuses on using these simulations to study riblets applied to high-pressure gas turbine compressor blades. Inspired by shark skin, riblets are micro-textured surfaces known for reducing drag.

This research aims to leverage these insights to further enhance gas turbine efficiency, marking a significant stride towards cleaner and more efficient energy systems.

Researcher: **Dr Melissa Kozul, Mechanical Engineering**

Fees and scholarships for Graduate Coursework degrees

Scan to learn more

Commonwealth Supported Places (CSPs)

Limited CSPs are available to domestic students. Students pay part of the tuition fee (the student contribution) and the Australian Government pays the remaining contribution. Fees are based on the subjects in which you enrol, rather than the overall course. Eligible students can apply for a HECS-HELP loan to defer upfront payment of their student contribution.

studyassist.gov.au

Guaranteed CSPs for Melbourne graduates

If you have completed a Bachelors degree at the University of Melbourne with a weighted average mark of 65%, you are guaranteed a CSP in engineering and IT professional entry programs (provided you meet the program entry requirements).

Australian Fee Places & FEE-HELP

If you are a domestic student who is not enrolled in a CSP, you may be eligible to defer payment of all or part of your tuition fees via the FEE-HELP loan scheme.

studyassist.gov.au

Transferring from an Australian fee place to a CSP

After completing 100 points of study (equivalent to one year full-time), high achieving domestic students may be eligible to transfer to a CSP. Please note there are limited numbers of transfers available per semester.

Graduate Access Melbourne

Domestic students may be eligible to apply for Graduate Access Melbourne if you're a member of a specified group that is underrepresented in higher education (such as women in engineering and information technology) or if personal circumstances have had a sustained, adverse effect on your academic achievement.

gradaccess.unimelb.edu.au

Financial Aid

The University's Student Financial Aid service can provide enrolled students with assistance and advice about student loans and bursaries, student income support and cost of living guidance.

services.unimelb.edu.au/finaid

For more information about fees, scholarships and more, visit: **go.unimelb.edu.au/jpb6**

Scholarships*

Scholarship	Eligible Courses	Total value
Airwallex Excellence in Technology Scholarship	• Master of Computer Science • Master of Information Systems • Master of Information Technology • Master of Software Engineering	$30,000
Civil Geotechnical Consultants Scholarship	Master of Civil Engineering	$20,000
Loxton Scholarship in Engineering	Completion of an undergraduate degree leading to a Master of Chemical Engineering	$20,000
Pearson William Tewksbury Scholarship	Completion of an undergraduate degree leading to a Master of Chemical Engineering	$20,000
James Herbert Mirams Memorial Scholarship	• Master of Energy Systems • Master of Environmental Systems Engineering • Master of Engineering Management • Master of Engineering Structures	$10,000
Melbourne International Pathway Scholarship	All engineering and IT masters programs for graduates of UoM undergraduate degrees	20% fee remission for the life of your degree
Melbourne International Graduate Scholarship	All engineering and IT masters programs for high achieving citizens of countries with a GDP per capita of less than US$10,000	20% fee remission for the life of your degree
Melbourne International Graduate Excellence Scholarship	All engineering and IT masters programs for high achieving international students	20% fee remission for the life of your degree
Engineering & IT Foundation Graduate Scholarship	All engineering and IT masters programs for high achieving domestic and international full-fee paying students	$20,000

*Visit our website for a full list of available scholarships: https://go.unimelb.edu.au/t8qe

"The Dr. Hans Prem Scholarship allowed me to reduce my working hours and move closer to the uni. It's been a huge help for me during my studies."

John Korasidis

Master of Mechatronics Engineering

How to apply

Scan to learn more

Application checklist

01.

Check the entry requirements and make sure you're eligible. See Quick Reference Guide on **pages 8–10** for a complete list of entry requirements or go to: **study.unimelb.edu.au**.

02.

Ensure you meet the University's English language requirements.

03.

Gather the supporting documentation listed below.

04.

Complete the online application form: **study.unimelb.edu.au**.

If you haven't previously completed a degree at the University of Melbourne, you'll need to provide:

1. Certified copy of academic results with a grading scale.
2. Certified copy of certificate of completion.
3. Syllabus subject descriptions for maths, science and other technical subjects.

Additional documentation

Evidence of any relevant work experience if required, such as: a current curriculum vitae (CV) and reference letters from your employer(s) on company letterhead.

Research applications

For information related to engineering and information technology research degree applications, **please see page 32**.

Application closing dates

Semester 1: February

International Students: 30 November
Domestic Students: 30 November

Semester 2: July

International Students: 31 May
Domestic Students: 31 May

English language requirements

All students studying at the University of Melbourne must satisfy the University's English language entry requirements. You can do this in a number of ways, depending on your circumstances. Applicants with a non-English speaking background can complete one of the English tests listed below:

Required scores must be achieved in one sitting within 24 months before your application.

For applicants from an English-speaking background, refer to the website for more details on the specific requirements:

https://study.unimelb.edu.au/how-to-apply/english-language-requirements

	IELTS (academic English only)	TOEFL (internet-based test)	Pearson Test of English (Academic)	Cambridge C1 Advanced
English Language requirements	6.5 (no band less than 6.0)	81 Writing 19; Speaking 19; Reading 16; Listening 16	64: No Skill less than 60	169 Writing 170; Speaking 179; Reading 163; Listening 163
Alternative English language requirements	5.0 (no band less than 5.0)	51 Writing 9; Speaking 14; Reading 8; Listening 8	50 No communicative skill below 42	

If you meet the alternative English language requirements, you can complete the University of Melbourne English Language Bridging Program (UMELBP) and be eligible for entry: **go.unimelb.edu.au/iq8e**

! Please note, the Master of Energy Systems and the Master of Computer Science are only offered for Semester 1 entry.

THE UNIVERSITY OF MELBOURNE

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Get to know us better in your own time

RFQ15115