



THE UNIVERSITY OF  
MELBOURNE

Faculty of  
Engineering and  
Information  
Technology

# Graduate Study in Engineering and IT in 2026



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# The Melbourne Advantage



**No. 1 in Australia  
No. 13 in the world**

QS World University Rankings 2024



**No. 8 in the world  
for graduate employability**

QS Graduate Employability Rankings 2022

## 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).*

Photography: Anthony Richardson

SCHOOL  
OF  
ENGINEERING

WORKSHOPS

5

Melbourne School of Engineering  
Engineering Building  
Entry 5

# 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.



*“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.**

Photography: Michael Kai

# 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 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 Graduate Research Showcase aims to foster meaningful partnerships between students and industry. The event showcases innovative research by our graduate researchers and explores opportunities for collaboration through internships, funded projects, and other engagements. The showcase also attracts high-quality students for PhD programs, highlighting the potential for impactful research and industry collaboration.



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.
- Creating Innovative Engineering: undertake an innovation challenge with an industry mentor in this Master of Engineering subject.
- 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
<b>Master of Biomedical Engineering</b> Optional specialisation: <ul style="list-style-type: none"> <li>Business</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>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)</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Chemical Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Business</li> <li>Materials and Minerals</li> <li>Sustainability and the Environment</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Equivalent of two first-year chemistry subjects</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> <li>IChemE</li> </ul>
<b>Master of Civil Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Business</li> <li>Energy</li> <li>Structural</li> <li>Transport</li> <li>Geotechnical</li> <li>Water Resources</li> <li>Project Management</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Equivalent of two first-year science subjects (two physics, two biology, two chemistry or two computer science)</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Digital Infrastructure Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Artificial Intelligence</li> <li>Business</li> <li>Communication Infrastructure</li> <li>Construction</li> <li>Cultural Heritage</li> <li>Energy</li> <li>Industry</li> <li>Information Systems</li> <li>Information Technology</li> <li>Land</li> <li>Mobility</li> <li>Smart Cities</li> <li>Sustainable Cities</li> <li>Water</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects (any)</li> <li>Equivalent of two first-year science subjects (two physics, two geography, two chemistry, two biology or two computer science)</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE</li> <li>Engineers Australia (provisionally)</li> <li>Surveyors Registration Board, Victoria</li> </ul>

Course	Minimum entry requirements	Duration	Course type
<b>Master of Electrical Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Artificial Intelligence</li> <li>Autonomous Systems</li> <li>Business</li> <li>Intelligent Networks and Communications</li> <li>Electronics and Embedded Systems</li> <li>Low-Carbon Power Systems</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Two first year physics subjects equivalent to Physics 1 and Physics 2</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Environmental Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Earth Observation</li> <li>Energy Systems</li> <li>Water Systems</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Equivalent of two first-year science subjects (two biology, two chemistry, two physics, two geosciences or two geography)</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Industrial Engineering</b>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>Three-year undergraduate degree from the University of Melbourne in any engineering systems major</li> <li>65% weighted average mark</li> </ul> OR <ul style="list-style-type: none"> <li>Four-year Bachelor of Engineering degree</li> <li>65% weighted average mark</li> </ul>	2 years full-time	Professional entry Accreditation: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Mechanical Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Aerospace</li> <li>Business</li> <li>Manufacturing</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Two first year physics subjects equivalent to Physics 1 and Physics 2</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>
<b>Master of Mechatronics Engineering</b> Optional specialisations: <ul style="list-style-type: none"> <li>Manufacturing</li> </ul>	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>65% weighted average mark</li> <li>Equivalent of two first-year mathematics subjects, specifically Linear Algebra and Calculus 2</li> <li>Two first year physics subjects equivalent to Physics 1 and Physics 2</li> </ul> <b>Advanced standing/credit</b> 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: <ul style="list-style-type: none"> <li>EUR-ACE®</li> <li>Engineers Australia</li> </ul>

## 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
<b>Master of Energy Systems</b>	<b>Undergraduate degree in a relevant discipline, such as commerce, science or engineering, and:</b> <ul style="list-style-type: none"> <li>70% weighted average mark</li> <li>Equivalent of one subject in mathematics, statistics or other quantitative subject</li> <li>Two years of continuous, documented work experience in a relevant field if you have a weighted average mark of at least 65%</li> </ul>	1.5 years full-time	Specialised masters
<b>Master of Engineering Management</b> Optional specialisations: <ul style="list-style-type: none"> <li>Change Management</li> <li>Project Management</li> </ul>	<ul style="list-style-type: none"> <li>Four-year undergraduate degree in engineering or relevant discipline</li> <li>65% weighted average mark</li> </ul> OR <ul style="list-style-type: none"> <li>A three-year undergraduate degree in a relevant discipline with a 65% weighted average mark AND</li> <li>At least two years of full-time documented, relevant work experience since graduation</li> </ul>	1 year full-time	Specialised masters
<b>Master of Engineering Structures</b>	65% weighted average mark in a four-year civil or structural engineering undergraduate degree Civil engineering graduates must: <ul style="list-style-type: none"> <li>Have one year of relevant work experience, or</li> <li>Have dedicated 30% of course to structural engineering subjects</li> </ul>	1 year full-time	Specialised masters
<b>Master of Environmental Systems Engineering</b>	<ul style="list-style-type: none"> <li>Four-year undergraduate engineering degree</li> <li>65% weighted average mark</li> </ul> OR <ul style="list-style-type: none"> <li>Three-year undergraduate degree in a relevant discipline</li> <li>65% weighted average mark</li> <li>At least two years of full-time, documented and relevant work experience</li> </ul>	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
<b>Master of Computer Science</b>	Undergraduate degree with a major in computer science, for example: <ul style="list-style-type: none"> <li>• Computing and Software Systems major in the Bachelor of Science or the Bachelor of Design</li> <li>• 75% weighted average mark</li> <li>• At least 25 points of university level mathematics or statistics subjects</li> </ul>	2 years full-time	Research pathway
<b>Master of Data Science</b>	<b>Undergraduate degree in computer science, data science</b> <ul style="list-style-type: none"> <li>• 65% weighted average mark</li> <li>• Equivalent to one subject from computer science or related discipline, focusing on computer programming</li> <li>• Equivalent of two subjects of first-year mathematics (including Calculus 2)</li> </ul>	2 years full-time	Specialised masters
<b>Master of Information Systems</b> Optional specialisation: • Research	Depending on your work experience and undergraduate study, you may be eligible for advanced standing:  <b>200 point (2 years full-time) program</b> <ul style="list-style-type: none"> <li>• Undergraduate degree in any discipline</li> <li>• 65% weighted average mark</li> </ul> <b>150 point (1.5 years full-time) program</b> <ul style="list-style-type: none"> <li>• Undergraduate degree in any discipline</li> <li>• 65% weighted average mark</li> <li>• One year of documented, relevant work experience</li> </ul> <b>100 point (1 year full-time) program</b> <ul style="list-style-type: none"> <li>• Undergraduate degree in information systems</li> <li>• 65% weighted average mark</li> <li>• Two years of documented, relevant work experience</li> </ul>	1-2 years full-time	Professional entry Accreditation: • Australian Computer Society
<b>Master of Information Technology</b> Specialisations: • Artificial Intelligence • Computing • Cyber Security • Distributed Computing • Human-Computer Interaction	Depending on your work experience and undergraduate study, you may be eligible for advanced standing:  <b>200 point (2 years full-time) program</b> <ul style="list-style-type: none"> <li>• Undergraduate degree in any discipline</li> <li>• 65% weighted average mark</li> <li>• One technical computer programming subject</li> </ul> <b>150 point (1.5 years full-time) program</b> <ul style="list-style-type: none"> <li>• Three-year undergraduate degree with a major in computer science, information technology, software engineering or related discipline, for example: <ul style="list-style-type: none"> <li>– Computing and Software Systems major in the Bachelor of Science or Bachelor of Design</li> </ul> </li> <li>• 65% weighted average mark</li> </ul> <b>100 point (1 year full-time) program</b> <ul style="list-style-type: none"> <li>• Four-year undergraduate degree with a major in computer science, information technology, software engineering or related discipline</li> <li>• 65% weighted average mark and either: <ul style="list-style-type: none"> <li>– Studies in the area of specialisation at an advanced undergraduate level or higher, OR</li> <li>– Two years of relevant, documented work experience in the area of specialisation</li> </ul> </li> </ul>	1-2 years full-time	Professional entry Accreditation: • Australian Computer Society
<b>Master of Software Engineering</b> Optional specialisations: • Artificial Intelligence • Business • Cyber Security • Distributed Computing • Human-Computer Interaction	<b>Undergraduate degree with:</b> <ul style="list-style-type: none"> <li>• 65% weighted average mark</li> <li>• Equivalent of 2 first-year mathematics subjects (any)</li> <li>• Equivalent of 2 first-year computing, programming or computer science subjects</li> </ul> <b>Advanced standing/credit</b> 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
<b>Master of Philosophy (MPhil)</b> and <b>Doctor of Philosophy (PhD)</b>	<ul style="list-style-type: none"> <li>• Four-year undergraduate degree in a relevant discipline</li> <li>• Must include a substantial research component (equivalent of 25% of one year of full-time study)</li> <li>• 75% weighted average mark in the equivalent of penultimate and final year subjects</li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• A masters degree in a relevant discipline</li> <li>• Must include a substantial research component (equivalent of 25% of one year of full-time study)</li> <li>• 75% weighted average mark</li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• Qualification or professional experience considered to be equivalent</li> </ul>	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



As life expectancies increase, engineers, doctors and clinicians are working together to ensure our bodies can take us further than ever before.

## 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.

## 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](http://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 and education in medical technologies, health informatics and healthcare delivery. Examples of biomedical engineering research include:

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

## 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.

*"I chose biomedical engineering because it combines the things that I really like - healthcare and being able to help people - but from an engineering perspective. You get to change people's lives and make a difference.*

*I've learned how to make circuits, process data, coding, mechanical analysis, and developed communication skills through project work and internships."*

**Luning (Lucy) Liu**  
Master of Biomedical Engineering



# Engineering programs

# 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	Fluid Mechanics	Fundamentals of Chemical Engineering	Material and Energy Balances	Interdisciplinary Design for Engineers
	Semester 2	Engineering 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	Thermal and Separation Design	Reactors and Catalysis	Interdisciplinary Design for Engineers
	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

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 was able bridge the gap between the theory and practice. From learning about the gas absorption concepts behind the removal of CO<sub>2</sub>/H<sub>2</sub>S from flue gas streams, to the interesting thermo-based innovations used in space exploration."*

**Samuel Malau**

Master of Chemical Engineering



# 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.

## 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.

*"The program offers a business specialisation that fosters versatile employability for graduates, strong industry connections, networking opportunities and vital management and leadership skills."*

**Victoria Pitliangas**  
Master of Civil Engineering



# 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, Industry, 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	EMI Capstone	Digital Infrastructure Engineering elective	Digital Infrastructure Engineering elective
	Semester 2	Engineering Project Implementation		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.

*"I learned how to apply real data to visualise geographic environments, use Revit to display architectural, structural, and facilities components of Melbourne Connect and conduct fieldwork using state-of-the-art, industry-standard instruments."*

**Zelen Guo**

Master of Digital Infrastructure Engineering



# Engineering programs

# Master of Electrical Engineering

Scan to learn more



Learn from leading experts in power systems, energy-efficient telecommunications systems and sensor 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
- Intelligent Networks and Communications
- 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	Electrical Engineering Capstone Project Part 1	Autonomous Systems Clinic	Advanced Signal Processing	Electrical Engineering Elective
	Semester 2	Electrical Engineering Capstone Project Part 2	AI for Robotics	Advanced Control Systems	Electrical Engineering Elective

Core subjects    Elective subjects    Specialisation

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 Embedded System Design and High Speed Electronics have provided me with deeper theoretical insights and cutting-edge techniques that I can directly apply to my work."*

**Mat Woodgate**

Master of Electrical Engineering



# 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	Civil Hydraulics	Spatial Data Analytics	Water Planning and an Uncertain Future
	Semester 2	Monitoring Environmental Impacts	Environmental Analysis Tools	Engineering Hydrology	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   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.

*"No two days are the same. You could be out in the field taking water samples, on campus building a raingarden or in the lab devising sustainable solutions to solve some of the world's most pressing environmental problems."*

**Nav De Silva**

Environmental Engineering Systems major  
Master of Environmental Engineering



# Engineering programs

# 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.

## 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.

## 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

## 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.

## 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.

*"The course involves a blend of technical expertise and systems-level thinking that is increasingly vital in today's world, where technological innovation and operational efficiency are key to securing a competitive advantage."*

**Maudy Chahine**

Master of Industrial Engineering



# 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
- Manufacturing

## 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	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

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 learned about thermodynamics, fluid dynamics, mechanics, electrical engineering, and mathematics. Now that I've graduated, I can explore one of many pathways in mechanical engineering."*

**Vinuri Sonara Peiris**  
Master of Mechanical Engineering



# 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

### Optional specialisation

- Manufacturing

## Sample course plan

### Master of Mechatronics Engineering (with optional Manufacturing specialisation)

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	Mechatronics Systems Design
	Semester 2	Embedded System Design	Analog and Digital Electronics Concepts	Introduction to Machine Learning	Interdisciplinary Design for Engineers
Year 3	Semester 1	Engineering Capstone Project Part 1	Manufacturing Processes and Technology	Industrial Engineering	Mechatronics Engineering Elective
	Semester 2	Engineering Capstone Project Part 2	Probability, Reliability and Quality	Manufacturing Automation and IT	Mechatronics Engineering Elective

Core subjects   Elective subjects   Specialisation

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.

*"In one of my assignments, I made a model which animated a spinning gyroscope using concepts in dynamics. I was able to compare it to a real-life simulation to observe how good our modelling and assumptions of the system are based on additional sensor data. It was a valuable project that combined what we had learned into something tangible."*

**Xingy Huang**

Master of Mechatronics Engineering



# 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	Non-Renewable Energy	Renewable Energy	Managerial Economics	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

# 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.

## 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.

## 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)

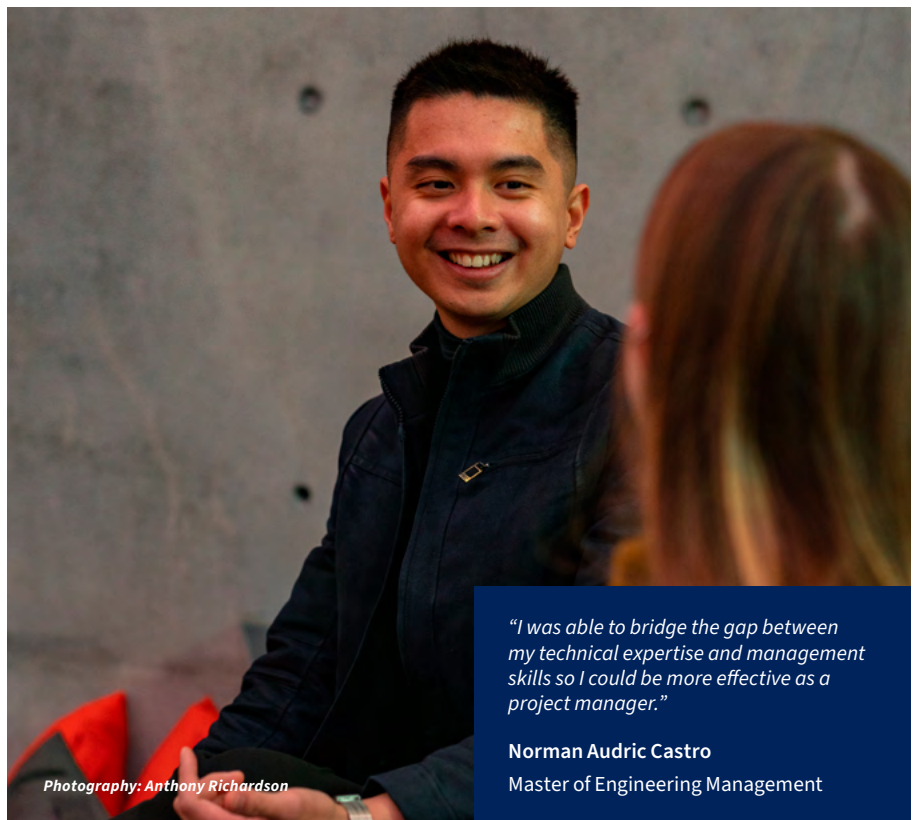
Semester 2 (July)

### Designed for

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

### Fees

International and domestic full fee places available



*"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

Photography: Anthony Richardson

## Sample course plan

### Master of Engineering Management

Year 1	Semester 1	Project/Change Management subject	Project/Change Management subject	Management elective subjects	Master of Management Elective
	Semester 2	Strategic Management	Engineering Management capstone	Project/Change Management subject	Master of Management Elective

■ Core subjects
 ■ Elective subjects
 ■ Project/Change Management subject
 ■ Management 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.

# 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

# Master of Environmental Systems Engineering

Scan to learn more



Gain advanced knowledge in sustainable development and environmental management.

## Elective themes:

### 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.

## 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



*“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

Photography: Anthony Richardson

## Sample course plan

### Master of Environmental Systems Engineering

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

# 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 your area of interest is app development, gaming, productivity software, databases, financial products or website development, there's a place for you in the computer science ecosystem.

## What is computer science?

Computer science combines technical elements from information technology, analytical skills from information systems and through graduate study, gives you the option to pursue a research career.

## Where will this take you?

You can use the Master of Computer Science as a pathway to a PhD or to the workforce, where you may meet our alumni working in software design, cybersecurity, information architecture and programming.

## 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 with the equivalent of a major in computer science.

## Sample course plan

### Master of Computer Science

Year 1	Semester 1	Declarative Programming	Introduction to Machine Learning	The Ethics of Artificial Intelligence	Statistical Machine Learning
	Semester 2	AI Planning for Autonomy	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.



*"I've enjoyed taking advanced subjects in computer science, quantum computing, algorithms and data structures, machine learning, and mathematics."*

**Han Perry**  
Master of Computer Science

# 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 Certificate in Data Science is also available as a pathway and you could be eligible for course credit.

### What is data science?

Data scientists use statistics tools and methods for in-depth analysis and solve

problems using data. The Graduate Certificate in Data Science is also available as a pathway and you could be eligible for course credit.

### 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		Statistical Modelling for Data Scienc	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	Advanced Database Systems	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.



*“This course taught me how to think critically and tackle problems head-on. This helped me improve at coding and provided a sneak peek into the inner workings of modern machine learning.”*

**Jiani Xie**  
Master of Data Science

# IT and software engineering programs

# Master of Information Systems

Scan to learn more



Create efficient information systems that consider both emerging technologies and business processes.

Build 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 is a degree that utilises analysis, critical thinking and communication to produce a skill set for students to succeed in a business and ICT combined industry. You'll learn to explain real-world situations leading to information technology management decisions and develop a broad business and real-world perspective.

## Where will this take you?

With information systems, you'll connect the technological potential of software with the business problems that need solving, or processes that need improving. This means you could work in any industry that uses, or could benefit from, using technology. 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 experience with a capstone project or a research project. This gives you opportunities to complete internships, technology innovation projects with industry partners or research.

### 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.



*“The Master of Information Systems focuses on group collaboration and teamwork, engaging in team-based assignments alongside a diverse cohort of students.”*

**Yihan Shen**

Master of Information Systems

# IT and software engineering programs

# Master of Information Technology

Scan to learn more



Gain the knowledge and experience to lead IT 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 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 skills that help us understand and develop 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 and computer games. You could build skills in 2D and 3D computer graphics, usability, accessibility and more.

## 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

### Specialisations

- Artificial Intelligence
- Computing
- Cyber Security
- Distributed Computing
- Human-computer Interaction

## 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.

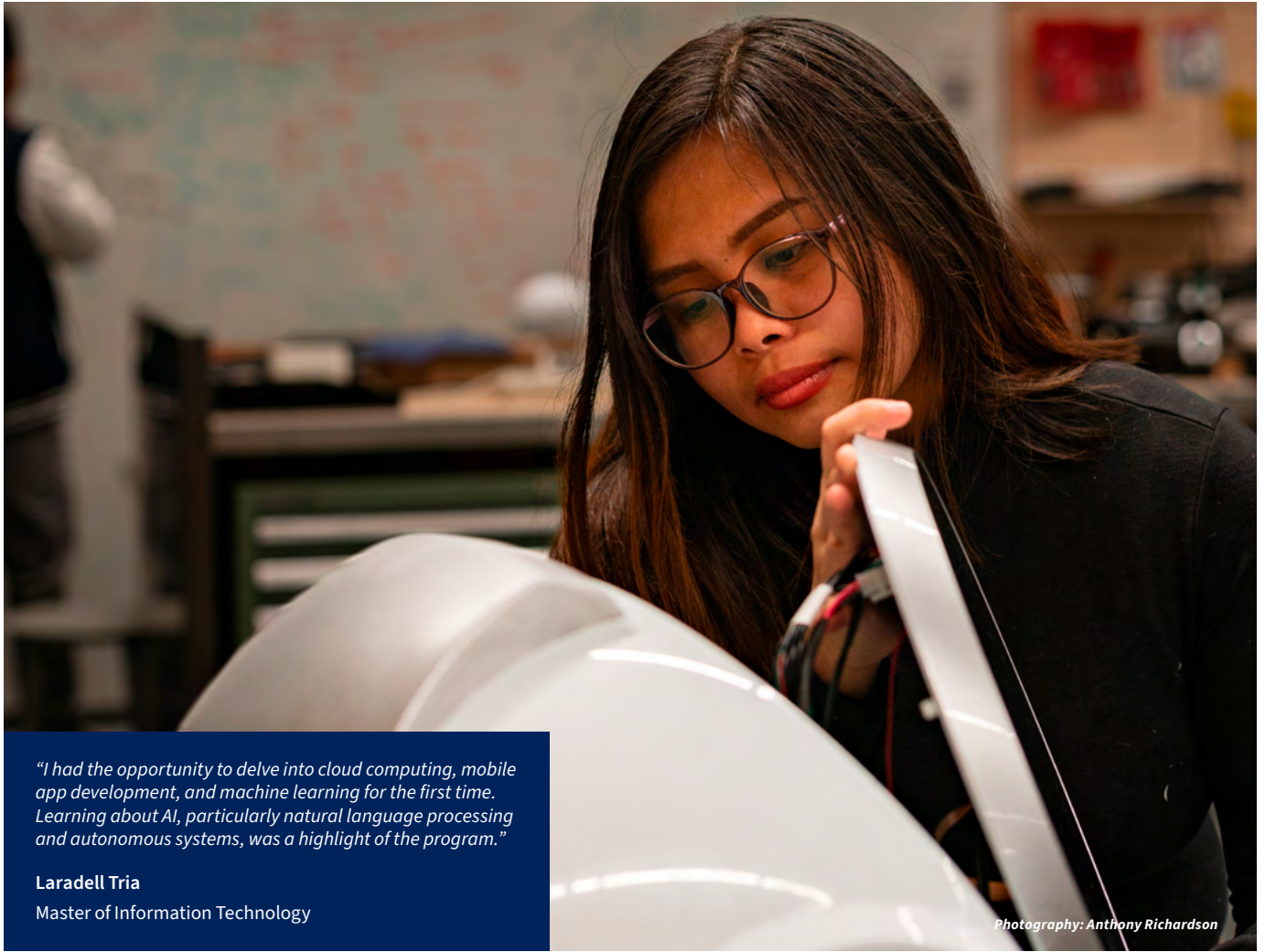
## Sample course plan

### 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	Distributed Systems	Cryptography and Security	Introduction to Machine Learning	Security and Software Testing
Year 2	Semester 1	Creating Innovative Professionals	Research Project OR Technology Innovation Project OR		High Integrity Systems Engineering
	Semester 2	Business Practicum	Software Processes and Management	Web Security	Security Analytics

■ 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

## Specialisations in the Master of Information Technology

Specialisation	Overview	Focus on	Career opportunities
<b>Artificial intelligence</b>	Develop expertise in the design, implementation and analysis of systems that learn, plan and reason.	<ul style="list-style-type: none"> <li>• Knowledge representation and planning</li> <li>• Machine learning</li> <li>• Data mining</li> <li>• Digital ethics</li> <li>• Security analytics</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Intelligence, machine learning and data science</li> <li>• Deep learning</li> <li>• Data mining</li> <li>• Business and data analytics</li> </ul>
<b>Computing</b>	Focus on theoretical and applied computing where you could develop programming platforms for a career in app development, data analytics, games development and more.	<ul style="list-style-type: none"> <li>• Theoretical and applied computing</li> <li>• Software development</li> <li>• Algorithmics</li> <li>• Databases and networking</li> <li>• Information technology project and change management</li> </ul>	<ul style="list-style-type: none"> <li>• Data science</li> <li>• Data mining</li> <li>• Business and data analytics</li> <li>• Database, web or app development</li> </ul>
<b>Cybersecurity</b>	Discover how to create new technologies to improve existing security and minimise vulnerability in design systems.	<ul style="list-style-type: none"> <li>• Software vulnerability discovery</li> <li>• Cryptography</li> <li>• Secure systems design and verification</li> <li>• Security analytics</li> </ul>	<ul style="list-style-type: none"> <li>• Security analytics, software and auditing</li> <li>• Cryptography</li> <li>• Forensics</li> <li>• Incident response</li> <li>• Network security</li> </ul>
<b>Distributed computing</b>	Learn to manage large quantities of data through networked computers.	<ul style="list-style-type: none"> <li>• Mobile computer systems programming</li> <li>• Cloud computing</li> <li>• High performance computing</li> <li>• Distributed algorithms</li> <li>• Parallel computing</li> </ul>	<ul style="list-style-type: none"> <li>• eBusiness and cloud computing</li> <li>• Mobile systems programming</li> <li>• Sensor networks</li> </ul>
<b>Human-computer interaction</b>	Work with novel, interactive tech with systems people can use with intuitive user interfaces and evaluate different prototypes.	<ul style="list-style-type: none"> <li>• User experience</li> <li>• Interaction design</li> <li>• Social computing</li> <li>• Information architecture</li> <li>• Ubiquitous computing</li> </ul>	<ul style="list-style-type: none"> <li>• UI development and engineering</li> <li>• VR, AR web and other information technology product design</li> </ul>

# Master of Software Engineering

Scan to learn more



## 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

Learn how to produce and manage complex or non-trivial large and small-scale software systems, leveraging your scientific and technical knowledge.

You'll be guided by leading software experts to study algorithms, internet technologies and database systems so you have the skills to implement software engineering solutions.

## What is software engineering?

Software engineers use engineering principles to build software products. This could be developing computer games or running a communications control system.

## Where will this take me?

Develop the advanced technical expertise, teamwork and communication skills to keep you agile in a rapidly evolving industry and graduate with an internationally recognised qualification. As a software engineer, you could work in banking and finance, human-computer interaction, technology consulting, health and more.

## 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	Software Engineering elective
	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



# 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
<b>Biomedical engineering</b>	<ul style="list-style-type: none"> <li>• Biomaterials and Tissue Engineering</li> <li>• Biomechanics and Mechanobiology</li> <li>• Biomedical Imaging</li> <li>• Neural Engineering</li> <li>• Systems and Synthetic Biology</li> <li>• Biomicrosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-scale cardiac mechanobiology and systems biology</li> <li>• Biofabrication and matrix mechanobiology of cartilage tissue models</li> <li>• Developing advanced biomaterials for stem cell manufacturing and tissue engineering applications</li> <li>• Use of Deep Learning computational methods to characterise cancer burden in PET imaging</li> <li>• Novel electrodes for brain computer interfaces</li> <li>• Transcranial magnetic brain stimulation for depression</li> <li>• Wearable assistive technologies to enhance performance and mitigate injury</li> </ul>
<b>Chemical engineering</b>	<ul style="list-style-type: none"> <li>• Electrochemistry</li> <li>• Materials development</li> <li>• Separations technology</li> <li>• Surface chemistry and rheology</li> <li>• Bioprocessing</li> </ul>	<ul style="list-style-type: none"> <li>• Next-generation fertilisers</li> <li>• Digital bioprocessing, including mechanistic and AI models of biopharmaceutical manufacturing processes</li> <li>• Green hydrogen production and conversion to future fuels</li> <li>• Water and energy-efficient mineral processing</li> <li>• Advance polymeric synthesis and their uses in tissue engineering, drug delivery, and other industrial applications</li> </ul>
<b>Computing and information systems</b>	<ul style="list-style-type: none"> <li>• Artificial Intelligence</li> <li>• Computer Science</li> <li>• Human-Computer Interaction</li> <li>• Information Systems</li> </ul>	<ul style="list-style-type: none"> <li>• Machine Learning</li> <li>• Generative AI</li> <li>• Efficient Cloud Computing</li> <li>• Information Security Management</li> <li>• Algorithms</li> <li>• Health Informatics and Digital Health</li> <li>• Ethics and Societal Impact of IT</li> <li>• Games, Play, and Extended Reality</li> </ul>
<b>Electrical and electronics engineering</b>	<ul style="list-style-type: none"> <li>• Communications and networks</li> <li>• Control and signal processing</li> <li>• Photonic and electronic systems</li> <li>• Power and energy systems</li> </ul>	<ul style="list-style-type: none"> <li>• Games, machine learning, and coding for wireless communications</li> <li>• Optical communication systems – access networks, human-to-machine, hybrid fibre-wireless</li> <li>• Nano-wire, nano-photonic devices and chiral light matter interactions</li> <li>• Real-time simulation and optimisation of smart distribution systems</li> <li>• Estimation and control for robotic systems</li> <li>• Networked control systems</li> <li>• Integrating communications and sensor technologies</li> <li>• Integrated planning of electricity-gas-hydrogen systems</li> <li>• Optimisation and ML for Industry 4.0</li> <li>• Optimisation and control of community energy systems and microgrids</li> <li>• Quantum machine learning</li> </ul>
<b>Infrastructure engineering</b>	<ul style="list-style-type: none"> <li>• Civil engineering</li> <li>• Geomatics</li> <li>• Environmental hydrology and water resources</li> </ul>	<ul style="list-style-type: none"> <li>• Life-cycle structures protection and management</li> <li>• Engineering physical and data infrastructures to harness ocean wind power</li> <li>• New and emerging technologies for design, operation, and management of transport systems</li> <li>• 3D digital mapping for land and property</li> <li>• Urban analytics, sustainability and smart city</li> <li>• Sustainable management of water and energy in changing climate</li> <li>• Emerging Earth observation technologies and sustainable solutions to environmental challenges</li> </ul>
<b>Mechanical engineering</b>	<ul style="list-style-type: none"> <li>• Robotic and Autonomous Systems</li> <li>• Biomechanics</li> <li>• Fluid Dynamics</li> <li>• Thermodynamics</li> <li>• Material Design and Engineering</li> <li>• Design, Manufacturing and Industrial Engineering</li> </ul>	<ul style="list-style-type: none"> <li>• Human and animal biomechanics</li> <li>• Air-sea interaction</li> <li>• Large scale energy systems</li> <li>• Assistive and rehabilitation robotics</li> <li>• Low emission transport</li> <li>• Dexterous robotic hands and neuroprostheses</li> <li>• Modelling and experimentation of production variability</li> <li>• Modular product design and optimisation</li> <li>• Cutting edge energy systems</li> <li>• Design of graphene membranes for desalination</li> <li>• Computing mechanical properties of material defects</li> <li>• Fluid mechanics in the reduction of airborne infectious viral load</li> </ul>

## 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](https://go.unimelb.edu.au/439r)

## Finding a project/supervisor

To search for available PhD projects and supervisors, go to [findanexpert.unimelb.edu.au](https://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.

## Scholarships include:

- **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 [go.unimelb.edu.au/ouh6](https://go.unimelb.edu.au/ouh6)
- **Ingenium Scholarship:** this scholarship is open to high achieving domestic students. It provides an annual top-up scholarship and a generous professional development fund. Check the instructions on how to apply: [go.unimelb.edu.au/uf4s](https://go.unimelb.edu.au/uf4s)



### 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](http://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](http://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 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](http://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](http://services.unimelb.edu.au/finaid)

For more information about fees, scholarships and more, visit: [go.unimelb.edu.au/jpb6](http://go.unimelb.edu.au/jpb6)

## Scholarships\*

Scholarship	Eligible Courses	Total value
Dee & John Collier Scholarship	• 300 point Engineering masters coursework degree	\$20,000
Agilent Scholarship for Women in STEM	• Master of Electrical Engineering • Master Mechanical Engineering • Master of Mechatronics Engineering • Master of Software 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

\*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 9–11** for a complete list of entry requirements or go to: [study.unimelb.edu.au](https://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](https://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 44**.

## Application closing dates

### Semester 1: March

International Students: 31 August  
Domestic Students: 30 November

### Semester 2: July

International Students: 31 January  
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 English Advanced/Certificate of Advanced English (CAE)
<b>English Language requirements</b>	6.5 (no band less than 6.0)	79+ Writing 21; Speaking 18; Reading 13; Listening 13;	58+ No communicative skill below 50	176+ No communicative skill below 169
<b>Alternative English language requirements</b>	6.0 (no band less than 5.5)	60+ Writing 18; Speaking 16; Reading 8; Listening 7	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](https://go.unimelb.edu.au/iq8e)



THE UNIVERSITY OF  
MELBOURNE

# UniMelb On-Demand



Get to know us better in  
your own time

The University of Melbourne (Australian University) PRV12150 / CRICOS 00116K

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RFQ13037