MONASH ENGINEERING
A GLOBAL LEADER

TOP 100 RANKINGS
#1
ENGINEERING SCHOOL IN AUSTRALIA
(Times Higher Education World University Rankings 2019)

TOP 50
IN THE WORLD FOR ENGINEERING AND TECHNOLOGY
(Quacquarelli Symonds World University Rankings 2019)

#59
QS GRADUATE EMPLOYABILITY RANKINGS

TOTAL RESEARCH INCOME
$47.1M
MONASH ENGINEERING (2018)

WORLD-WIDE CONNECTIONS
100+
PARTNER UNIVERSITIES

27K+
ALUMNI FROM MORE THAN 75 COUNTRIES (2018)

OUR STUDENTS AND STAFF
8,980
STUDENTS (2018)

626
STAFF (2018)

SUZhou, CHina
MUMbaL, INDIA
KuILA LuMPuR, MAlaysia
CLAYTON CAMPUS
MELibourNE, AUSTRALIA
As engineers, we seek to benefit humanity by reimagining the components of our physical world. Ranked as Australia’s #1 university for engineering and technology,* Monash distinctly delivers the advanced technical expertise and professional skills you need to drive innovation and lead the way.

Take your engineering qualification to the next level with a Monash postgraduate program. We offer a range of programs, both on and off campus, across a range of specialisations for you to pursue your passions, deepen your technical knowledge and transform your career to become a leader in your field. Our world-leading facilities create a vibrant backdrop for meaningful graduate study and you will learn from expert academics, researchers and industry professionals.

By pursuing a Masters, you will join a talented and diverse community of ambitious Monash engineering graduates, driven by passion and a commitment to deliver sustainable solutions for society’s global challenges – including climate, energy, transportation, water, health and communications. Our graduates are dynamic, highly competent and in-demand leaders across the breadth of engineering disciplines and beyond.

PROFESSOR Elizabeth Croft
Dean, Faculty of Engineering

BE INSPIRED
AND LEAD THE WAY

Are you passionate about tackling global challenges and collaborating with some of the brightest minds in engineering? Then Monash is the place where your ideas and actions can gain momentum.

Our industry-relevant graduate degrees will prepare you for the professions of the future, both in Australia and overseas. Our programs integrate leadership, professional development and entrepreneurial activities through a range of channels – including coursework, projects and industry events.

At Monash, you will be taught by the best – and learn alongside the best. World leaders in their field, our academics from a range of backgrounds will challenge your knowledge, insights and ideas. Furthermore, our alumni network is at the forefront of social and technological progress at many of the world’s best companies. You’ll find Monash learning is all about discovery, creativity, challenge and opportunity.

Where will your engineering career take you?
A Monash Engineering masters can set you on the path to career success. You will learn critical skills that industry are looking for including leadership, critical thinking, decision-making, teamwork and communications.

Our engineering graduates are sought out by a range of local and international organisations including those in the traditional engineering sector, consulting firms as well as all levels of government.

Women in engineering
Monash Engineering supports gender diversity and seeks to increase the participation of women in all of our programs. Initiatives includes equity and diversity week, our women in engineering luncheon, as well as our dedicated student team, Female Engineers at Monash (FEM) which is leading the way in providing peer to peer support.

Monash has successfully achieved an inaugural Athena SWAN Bronze award through the Science in Australia Gender Equity (SAGE) initiative.
DELIVERING GRADUATE OUTCOMES

The interns from the Monash Work Integrated Learning (WIL) program have been able to achieve and deliver outstanding results. The students worked on one of our corporate social responsibility projects, the Global Sanitation and Sustainability Project (GSSP). Their contributions have been great and moved the project one step closer to completion. All three students were very focused and dedicated. We have employed one of the interns as an Engineering Advisor and she is doing an amazing job taking our project to Sri Lanka.”

SYED SHAH
CEO ACC Global
WORLD-CLASS FACILITIES

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

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

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

Woodside Building for Technology and Design
The new Woodside Building for Technology and Design will be completed in 2020, providing a world-class learning environment with the latest dynamic and interactive learning spaces, labs and technology.

New Horizons Centre
The $175 million facility brings Monash and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) together to research the future in renewable energy, biological engineering and so much more.

Some of Monash University’s engineering research facilities include:
• Monash Centre for Additive Manufacturing (MCAM)
• The Cave2™
• The TITAN Microscope
• Monash Wind Tunnel
• Multi-modal Australian ScienceS Imaging and Visualisation Environment (MASSIVE)
• X-ray Analytical Platform
STUDENT CLUBS AND TEAMS

We support a growing number of student teams to pursue their passion during their studies. Our Nova Rover Team was the first Australian team to compete in the International University Rover Challenge coming 9th in only their second year of competition. Our Monash Motorsport team regularly competes on the world stage and is currently ranked number two internationally.

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

- Engineers without Borders (EWB)
- Female Engineers at Monash (FEM)
- Gay and Lesbian Engineers at Monash
- Materials Engineering Society
- Mechatronics Engineering Clayton Club
- Monash Aerospace and Mechanical Engineering Club
- Monash Association of Civil Engineering Students
- Monash BrewLab
- Monash Connected Autonomous Vehicle
- Monash deepNeuron
- Monash Engineering Students’ Society (MESS)
- Monash Engineering & Pharmaceutical Science Society
- Monash Environmental Engineering Society
- Monash Forge
- Monash High Powered Rocketry
- Monash Human Power Team
- Monash Motorsport (MMS)
- Monash Solar Decathlon Team
- Monash Unmanned Aerial Systems
- Monash Young Medtech Innovators
- Nova Rover Team
- Precious Plastic Monash
- Resources Engineering Student Society
- Robogals Monash
- Society of Monash Electrical Engineers
- Society of Monash University Chemical Engineers
- Transport Engineers at Monash
FLEXIBLE COURSE OPTIONS

We know that when, where, how and what you study is critical to being able to manage studying while progressing your career, skills and knowledge.

You might be a professional looking to gain expert knowledge in your current field or you might be looking for a career change. Whatever your ambition, Monash Engineering can help you get there.

Professional entry master’s course

A two year professional-entry master’s course is ideal if you are seeking professional accreditation and want to advance your technical and management skills. The professional master allows you to build on your undergraduate specialisation by choosing from the five programs: chemical, civil, electrical, materials and mechanical.

Expert master’s course

These courses allow you to advance expertise gained through your undergraduate degree, or add breadth to your knowledge and skills within a new or complementary field. If you complete a four-year honours bachelor’s degree, you can usually complete an expert master’s degree in the same discipline in just one year, meaning you graduate with both a bachelor’s and a master’s degree in five years.

Off-campus (online)

You don’t have to be at Monash to study with Monash. Through our online distance learning, you can study with Australia’s number one engineering university without ever having to set foot on campus. It’s the perfect option if you need to balance university with work, family and other personal commitments. You’ll study the same units and gain the same qualification as you would if you were on campus. It is all online. Please note: studying off-campus with Monash doesn’t entitle you to apply for an Australian student visa.

International Double Master Programs with Southeast University (SEU) China

The Double Master Program takes 1.5 to 2.5 years of full-time study to complete (depending on the units chosen). Studies are undertaken at the SEU-Monash campus in Suzhou, China, and students also have the opportunity to undertake one semester of study at Monash University’s Clayton campus in Melbourne, Australia.

- Master of Civil Engineering
- Master of Transportation Systems
- Master of Industrial Chemical Engineering

Find out more at monash.edu/engineering/future-students/postgraduate-study

HOW TO APPLY

Use monash.edu/study to check:
- the entry requirements for both domestic and international students
- additional entry requirements – for example, details of relevant work experience
- special course requirements
- fees
- closing dates
- when courses start.

Domestic students

Domestic students are Australian and New Zealand citizens and Australian permanent residents (including holders of Australian permanent humanitarian visas).

Applications for all graduate courses can be made directly online at: monash.edu/admissions/apply

International students

International students can apply online, by mail or through a Monash Agent.

For more information visit: monash.edu/study/international/apply

When should you apply?

As early as possible. Some courses may close a few months or a year before the start of the course, while others have quotas. Aim to have your online application submitted as early as possible. This allows time for your application to be processed and can help to ensure that you secure a place if your preferred course has limited places.
CHOOSE THE RIGHT COURSE

Not sure which graduate course is right for you? Monash Engineering has two masters programs delivered on-campus and a range of off-campus and international programs available that can build on your undergraduate qualifications to help you reach your career goals.

CHOOSE THE BEST GRADUATE STUDY OPTION FOR YOU

I want to study on-campus

- I have a non-accredited 3 or 4 year Engineering degree in one of the related disciplines (specialisations) and I am seeking professional accreditation

- **Master of Professional Engineering**
  - Professional accreditation*
  - 5 specialisations (Chemical, Civil, Electrical, Materials or Mechanical Engineering)
  - Professional development and practice units
  - Industry experience through Work Integrated Learning
  - Select from electives related to your engineering discipline
  - Takes two years to complete
  - *Accreditation process with Engineers Australia has commenced.

- I have completed a four-year Engineering degree and I want to further advance my technical and leadership skills

  - **Master of Advanced Engineering**
    - Offers in-depth advanced technical knowledge
    - 11 specialisations (see page 14-15)
    - Industry experience through Work Integrated Learning
    - Select from a broad range of multi-disciplinary electives
    - Takes 1 or 2 years to complete, depending on your background

I want to study online

Need a more flexible option to combine work and study?
Choose one of our online master’s programs:
- Bioproduct Manufacturing Engineering
- Infrastructure Engineering and Management
- Transport and Traffic

See the individual online courses pages for further details and entry requirements.

English language level

When you apply for a Monash Engineering graduate course you must meet the English language requirements. You can meet the requirements if you are from an English speaking background or have completed the Australian equivalent of one full time year of higher education taught entirely in English.

If you’re from a non-English speaking background or haven’t completed your studies entirely in English you must demonstrate Level A English language proficiency by taking an English language test as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Academic IELTS</th>
<th>Internet Based TOEFL</th>
<th>Pearson Test of English (Academic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6.5 6.0 6.0 6.0 6.0</td>
<td>79 12 13 18 21</td>
<td>58 50 50 50 50</td>
</tr>
</tbody>
</table>

For other English language tests and more information: monash.edu/admissions/english-language-requirements
LIVING IN MELBOURNE

Our Australian base is a vibrant, multicultural city that offers an abundance of cultural festivities, international sporting events, cafés and restaurants with cuisines from around the world, beautiful parks and beaches, and an eclectic mix of music and arts. You couldn’t pick a better place to live.

As one of the world’s most liveable cities*, you can expect excellence in public transport and healthcare, as well as opportunities for casual work while studying. Plus, Melbourne is renowned as a welcoming environment for international students, providing a home away from home.

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

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

* Economist Intelligence Unit 2011-2018.

STUDENT LIFE AT MONASH

University study takes commitment and drive, especially if you’re moving to a new city or country. We can help you settle into university life by providing an extensive range of support programs and services.

monash.edu/study/student-life

Airport pick-up service
Commencing students can pre-book our free airport pick-up service prior to arriving in Melbourne. monash.edu/study/international/preparing/reception

Support services
Monash support programs and services include:
- Academic support
- Campus security
- Monash Professional Pathways
- English Connect
- Disability support services
- e-Research services
- Family support
- Monash Connect
- Health and Wellbeing
- Clubs and societies
- Monash Postgraduate Association

Orientation
Orientation activities happen before the semester starts and are designed to help you settle in. Some orientation activities focus on preparing you for study at a graduate level, while other activities are designed to help you meet new people and adjust to the Monash University environment.

monash.edu/orientation

Clayton campus
Twenty kilometres from the centre of Melbourne, Monash’s Clayton campus combines a vibrant research, technology, and manufacturing precinct with first-rate sporting facilities, shops, a student centre, libraries, a post office, banks, medical services, and religious centres.
Melbourne is a very lovely city and has good weather all year round. The people are really friendly and I feel at home. Australia is such an animal friendly country and it’s been a really fun experience to see koalas and kangaroos in the wild.”

HUIJIE ZHANG
Chinese international student
MASTER OF PROFESSIONAL ENGINEERING

Professional entry master’s

As engineers, we seek to benefit humanity by reimagining the components of our physical world. The Master of Professional Engineering delivers the technical expertise and management skills you need to lead the way.

You will learn:
• How to apply your engineering knowledge to managing projects in an inter-cultural and multidisciplinary business environment.
• How to expand your critical thinking, problem-solving, decision-making, teamwork and communication skills.
• To explore the contemporary and complex global issues affecting organisations.
• Technical skills and gain practical experience.
• To perform data analysis on industrial scenarios and make recommendations that support business growth.

Who should apply
Students who have completed undergraduate studies in engineering and are seeking an internationally recognised engineering qualification to practice as a professional engineer in Australia and other countries that are signatories to the Washington Accord.

Benefits:
• Take part in a design project.
• Through the completion of a research project, blend theory and practice, by putting into action all that you’ve learned during the course.
• Grow networks and develop the skills and confidence to create positive change.
• Undertake relevant professional development.
• Apply for a Work Integrated Learning program placement with our partner organisations for valuable professional and industry experience.

RANKED #59 IN THE WORLD FOR PRODUCING THE MOST EMPLOYABLE GRADUATES*

Monash Engineering prepares students for career success. Our graduates are highly sought after and many students receive job offers before finishing their studies.

Monash Engineering proved to be a great way to access new talent and find skilled engineers to get involved in our industry and business. Both the master’s students who participated in a three-week internship exceeded our expectations and have remained as part of the Energy Terrain team."

PAUL GIZINSKI
Director and CEO
Energy Terrain (Solar Power Purchase Agreement Specialist)

*QS Graduate Employability Rankings 2019
Choose from five specialisations
Pursue your interests and build on your undergraduate experience. Deepen your knowledge in your chosen specialisation. There are five engineering specialisations available.

Chemical engineering
Tackle our most pressing energy, environmental and healthcare challenges by exploring industrial-scale processes that convert raw materials into commercial products. Enhance your leadership capacity with advanced knowledge of thermodynamics, reaction engineering, fluid dynamics, separation processes, and much more. Extend your technical expertise by choosing a stream in food engineering, bio-processing or engineering design.

Civil engineering
As the world’s population explodes, we must adapt our built environment to modern life. Prepare for a top-level job in civil engineering – grow your expertise in the design of steel and timber structures, geomechanics, transportation, flood and water management, computational methods, and much more, in units taught by experts. Design earthquake-resistant schools. Create systems to protect against floods. Construct highspeed railways. devise conditions for improved traffic flow. Develop large-scale recycling schemes. Acquire the technical knowledge essential to design, construct, improve and lead projects. Focus on a particular area by selecting a stream in geomechanics, structure, transport or water.

Electrical engineering
In this diverse and rapidly changing technological field, you can innovate to improve our quality of life. Move to the forefront by expanding your understanding of signal processing, electronic design, electromagnetism and antennas, real-time system design, multimedia communications, smart grids, and much more. Put theory into hands-on practice in laboratory sessions and team-based design projects.

Materials engineering
Make things stronger, lighter, more efficient, more functional and more sustainable. By improving existing materials, or creating entirely new ones, you will accelerate the development of new technologies, devices and products. Advance your career by delving into polymeric materials, metals and alloys, energy technologies, environmental durability, metallic materials, magnetic materials, biomaterials, additive manufacturing, sustainability, and much more, in units closely aligned to industry.

Mechanical engineering
Mechanical engineers make the world go round – they turn energy into motion and power in virtually every machine or system that supports our way of life. Advance your knowledge of mechanical systems design, biomedical imaging and sensing, additive manufacturing, instrumentation sensing and monitoring, systems performance analysis, sustainability engineering, entrepreneurship, and more. Gain the strong understanding of thermal and mechanical components and processes to move technology forward.

Entry requirements
A three or four-year Bachelor of Engineering degree in a related discipline with a minimum 70% average. Applicants who hold a three-year Engineering Science degree at least equivalent to the first three years of a related engineering degree accredited under the Washington Accord may also be considered.

English language level
Level A (see page 7).

Course structure
The Master of Professional Engineering is 2 years full-time or 4 years part-time (96 credit points).

<table>
<thead>
<tr>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 credit points</td>
<td>8 x core specialisation knowledge and application units</td>
</tr>
<tr>
<td>24 credit points</td>
<td>4 x enhancement learning units to deepen your understanding of specific topics and practices within your specialisation.</td>
</tr>
<tr>
<td>18 credit points</td>
<td>3 x research and integrated design project units</td>
</tr>
<tr>
<td>6 credit points</td>
<td>1 x professional practice unit</td>
</tr>
</tbody>
</table>

1 unit = 6 credit points

Student are required to complete the equivalent of 12 weeks (420 hours) of Continuous Professional Development (CPD). Approved CPD activities such as industry work experience, volunteering and career sessions are recorded in an online platform.

Take the lead with Master of Professional Engineering. Learn more at monash.edu/engineering/professional-masters

WORK INTEGRATED LEARNING
Take your skills and knowledge further with an internship with one of our many partner organisations.

The Work Integrated Learning program placement counts towards your degree and provides a valuable opportunity to apply your skills and knowledge in a professional or research setting.

PROFESSIONAL ACCREDITATION
The course has been designed to meet the Stage 1 competencies for accreditation by Engineers Australia (EA). The accreditation process for full recognition by EA has commenced.

TOP FACILITIES
Access world-class facilities when you study at our largest Melbourne campus – Clayton.

ENHANCED TECHNICAL KNOWLEDGE
Five specialisations available. Deepen your knowledge with advanced engineering technical units in your chosen specialisation.

GENEROUS SCHOLARSHIPS
International Merit Scholarship of A$10,000 per year for two years awarded on academic merit to eligible students.

WORLD RANKING
Study at a University ranked in the top 1% of the world*

CONTINUOUS PROFESSIONAL DEVELOPMENT
Engage in business and engineering-related activities and grow your professional networks and experience.

* Times Higher Education World University Rankings 2019
MASTER OF ADVANCED ENGINEERING

Expert master's

Transform your future. The Master of Advanced Engineering gives you a competitive advantage to lead innovation and drive industry change in your engineering field.

You will learn:
• To apply new knowledge to real work problems.
• Engineering leadership to strengthen your critical reasoning and strategic thinking skills.
• Further develop your transferable skills such as communication, data analysis, problem solving and time management.
• To undertake a research project and a major design project in multidisciplinary teams (2 year program only)

Benefits:
• The advanced engineering masters course moves you beyond a base-level engineering qualification to explore your specialisation at an advanced level.
• Work with some of Australia's leading researchers.
• Extend your knowledge in your chosen specialisation and advance your leadership and complex problem-solving skills in a cross-cultural environment.

Entry requirements

One-year program
To apply for the Master of Advanced Engineering one year program you must have successfully completed the equivalent of a four-year Australian Bachelor of Engineering in the relevant discipline with a minimum 70 per cent average (Australian equivalent).

OR
The equivalent of a four-year Australian Bachelor of Engineering in the relevant discipline with a minimum 65 per cent average (Australian equivalent) and at least three years relevant engineering work experience. A Curriculum Vitae and 300 word statement is also required as part of your application.

Two-year program
To apply for the Master of Advanced Engineering two year program you must have successfully completed the equivalent of a four-year Australian Bachelor of Engineering in the relevant discipline with a minimum 65 per cent average (Australian equivalent).

English language level
Level A (see page 7).

Course structure

Entrants to the one-year program must complete 48 credit points as follows:

<table>
<thead>
<tr>
<th>Credit Points</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2 x Common core units</td>
</tr>
<tr>
<td>24</td>
<td>4 x Discipline core units</td>
</tr>
<tr>
<td>6</td>
<td>1 x Enhancement unit</td>
</tr>
<tr>
<td>6</td>
<td>1 x Research core unit</td>
</tr>
</tbody>
</table>

Entrants to the two-year program must complete 96 credit points as follows:

<table>
<thead>
<tr>
<th>Credit Points</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2 x Common core units</td>
</tr>
<tr>
<td>24</td>
<td>4 x Discipline core units</td>
</tr>
<tr>
<td>12</td>
<td>2 x Enhancement units</td>
</tr>
<tr>
<td>24</td>
<td>4 x Technical elective units</td>
</tr>
<tr>
<td>24</td>
<td>4 x Research and design project units</td>
</tr>
</tbody>
</table>

Enhancement units
Enhancement units are designed to provide breadth and can be taken from either another engineering specialisation or in complementary areas such as information technology and business.

Technical electives units
The two year version of the program offers a range of technical electives that will deepen your understanding of specific topics and advanced elements within your specialisation.

Research and design project units
You will undertake two, year-long projects. The first is a research project, where you are invited to work closely with faculty academics in your discipline. In the second unit you immerse yourself in a multidisciplinary design team project developing a depth of your engineering design skills.
The Master of Advanced Engineering has allowed me to expand my civil engineering knowledge to other streams and aspects of engineering. I like that the course has a multidisciplinary approach to engineering.

The two-year course also gives you the opportunity to undertake a design and research project, which is a good complement for the coursework and allows you to expand your possibilities when finishing.”

ALEJANDRA ACOSTA HERMOSILLO
Master of Advanced Civil Engineering

STUDY OPTIONS
Choose the study mode that suits you. 1 year or 2 year program.

LOCATION
Access world-class facilities when you study at Clayton – our largest Melbourne campus and home to our Engineering faculty.

BUILD ON YOUR EXISTING SPECIALISATION
11 specialisations to choose from. Master the crucial skills to become a leading contributor in your field. See page 14-15.

STUDY GRANTS
At Monash we believe in unlocking your potential to make a difference in the world. Generous study grants of up to $12,000 are available to eligible students.

WORLD RANKING
Study at a University ranked in the top 1% of the world.*

WORK INTEGRATED LEARNING
Take your skills and knowledge further with an internship with one of our many partner organisations. The Work Integrated Learning program placement counts towards your degree and provides a valuable opportunity to apply your skills and knowledge in a professional or research setting.

* Times Higher Education World University Rankings 2019
MASTER OF ADVANCED ENGINEERING

BECOME A LEADER IN YOUR FIELD

As a Master of Advanced Engineering graduate, you could become a transformational, global and socially responsible leader. You will build on your existing skills and boost your confidence in a range of settings. Innovative thinking and entrepreneurship is encouraged. The program integrates leadership and personal development activities through a range of channels — including coursework and industry events. We also offer a competitive entry Monash Industry Team Initiative (MITI) program for interested students.

Choose from 11 specialisations in the Master of Advanced Engineering

Build on your existing specialisation knowledge. A course designed with you in mind to pursue the engineering discipline(s) you’re most passionate about.

Additive Manufacturing
This specialisation will train you in the conceptualisation, design optimisation, manufacture and testing of additively manufactured parts made from both metals and polymers. The program will explore commercial aspects in areas that range from medical devices, through to specialist and one-off components, through to large-scale semi-continuous manufacture. You’ll examine the material characteristics that result in successful, qualified additive manufacturing parts.

Chemical Engineering
You will develop up-to-the-minute knowledge relevant to chemical engineers across a range of industry and research areas including advanced reaction engineering, process design and optimisation, conversion of bio-resources into fuel, materials and specialty chemicals and nano-structured membranes and catalysts for sustainable separations and energy production, water and wastewater treatments.

Energy and Sustainability Engineering
Provides foundations in general engineering through engineering analysis and entrepreneurship units. You will examine energy and sustainability from a multi-disciplinary perspective and can choose elective units such as environment, air pollution control and smart grids to further enhance your knowledge in this area.

Materials Engineering
With a focus on the latest developments in materials science and engineering, this course explores the role of materials in our modern world. Both structural and functional materials are re-examined, including metals, polymers, biomaterials, nanomaterials and energy-related materials, as well as providing opportunities to dive into advanced characterisation, durability and manufacturing.

Apply today and transform your future with a Master of Advanced Engineering. Learn more at monash.edu/engineering/masters
Civil Engineering (Infrastructure Systems)
You will develop the advanced skills necessary for managing the problems posed by ageing infrastructure, and leading the designs of new inter-disciplinary complex infrastructure systems. It has a focus on monitoring and rehabilitation strategies, and also provides fundamental knowledge about the interface between structural and geotechnical aspects of infrastructure systems.

Civil Engineering (Transport)
Today’s society increasingly demands engineers with advanced transport expertise. With a focus on state-of-the-art engineering solutions, you will investigate the significance and impact of transport from a technological, economic and social perspective. Areas of study include transport engineering and management, traffic engineering, intelligent transport systems and transport planning.

Civil Engineering (Water)
This program will equip you with advanced skills for managing the challenges of changing climatic conditions on water resource management. Areas of study include surface and ground water flow, stormwater management, water quality and flood forecasting and mitigation.

Electrical Engineering
You will explore advanced techniques in signal processing, communications, digital systems and electronics. Units focus on the common theme of embedded systems – special purpose computing systems designed for specific applications. Embedded systems are found just about everywhere, including consumer electronics, transport, medical equipment and sensor networks.

Mechanical Engineering
This program takes a systems approach to the design, monitoring and performance of complex mechanical engineering systems in the fields of renewable energy, aerospace, buildings, transportation and biomedical devices. The systems approach also permeates the design of the course. Four discipline-based core units are integrated so that common problems are examined from different perspectives, culminating in a sustainable systems unit.

Medical Engineering
This program allows you to focus on engineering design and the development of medical technologies, encompassing recent advances in biomaterials, bioengineering, medical devices and instrumentation. You will develop a knowledge of the human body and its workings as well as of the fundamentals of regulation, clinical practice and clinical trials of medical technologies.

Renewable and Sustainable Energy Engineering
Addressing concerns about existing energy production, you will learn about the operation, benefits and limitations surrounding each of the major renewable energy technologies that play a dominant role in the growth of the emerging energy sector. You will also develop an understanding around how such technologies modify existing electricity networks and the markets in which they operate.
ONLINE POSTGRADUATE PROGRAMS

We offer a range of online postgraduate coursework programs, making it easier to balance work and study.

We offer three postgraduate programs via online learning, which means you can balance your work and life while attaining your expert masters engineering qualification with Monash University. This study mode is based on a combination of online study material and online communication.

Academic assistance with the materials can be obtained by email, telephone or online posting. Discussion groups and other forms of online communication are also available.

Online learning is perfect for students who value flexibility, but also want to interact directly with expert academics who are leading researchers in their field and learn alongside inspiring like-minded professionals.

These courses aren’t available to international students who are holders of an Australian student visa, for study onshore in Australia. However, holders of some other categories of Australian visas living in Australia, and students studying off-campus by distance learning (where this option is available) and living outside of Australia, may be eligible for these courses. We can find a solution that works for you.

"This course has helped me realise the potential for the pulp and paper industry to produce sustainable, high value bio-products and has helped me develop valuable connections with other students from across the industry."

The online masters is really good because it’s flexible, I can work around my work commitments, and although it is distance learning, you do feel like part of a community, you have regular online tutorials and there’s some group work components as well so it’s a good way of getting to know some other people in the industry.”

DEANNE HEIER
Master of Bioproduct Manufacturing Engineering
MASTER OF BIOPRODUCT MANUFACTURING ENGINEERING

Expert master's

Bioproduct manufacturing is an emerging and fast-growing industry. Play a vital role in shaping the transformative technologies of the future in the sustainable global bioeconomy.

With a Master of Bioproduct Manufacturing Engineering, you’ll integrate core engineering principles with specialist topics in the field of bioresource processing, gain enhanced technical and research skills, and develop the entrepreneurial acumen sought by a broad range of industries.

With a diverse set of skills in applied engineering coupled with lean manufacturing, project management and entrepreneurship, you’ll be uniquely placed in a rapidly expanding job market. The master’s provides you with an opportunity to pursue your passion for sustainability and innovation and be part of the growing bio futures industry.

This course is supported by the Australian pulp and paper industry and the Bioresource Processing Institute of Australia (BioPRIA) and works closely with industry partners.

This is an online master’s degree, allowing you to maintain your professional career whilst gaining an expert qualification.

To find out more visit monash.edu/engineering/master-bioproduct

Entry requirements

Selection is based on your previous academic achievement in your prior qualification/s that must be accredited to the equivalent Australian level specified in the table below.

<table>
<thead>
<tr>
<th>ELIGIBILITY</th>
<th>Average requirements</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s (honours) degree or graduate diploma (or equivalent) in engineering, science or applied science in a related field, OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s degree (or equivalent) in engineering, science or applied science in a related field plus three years’ minimum work experience in the bioproduct manufacturing industry or other related industry that the faculty considers to be equivalent, OR</td>
<td>High Credit (65%)</td>
<td>1</td>
</tr>
<tr>
<td>Bachelor’s degree (or equivalent) in engineering, science or applied science in a non-related field plus five years’ minimum work experience in the bioproduct manufacturing industry or other related industry that the faculty considers to be equivalent.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

English language level

Level A (see page 7).

GROW YOUR CAREER

With the increasing challenges of resource scarcity and environmental pollution, there’s a strong global demand for bioproduct engineers who can design sustainable and environmentally friendly materials and energy-efficient sources.

The course will suit engineers already working in bio-based industries and new graduates with related qualifications who want to play a vital role in the transformative technologies and be at the forefront of the circular bioeconomy.

RANKED TOP 30

IN THE WORLD IN CHEMICAL ENGINEERING

QS World University Rankings by Subject 2019

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass.
2 Related fields include chemical, materials, mechanical, physics, mathematics and biology.
3 Relevant work experience in process engineering and related research and development.
4 Applicants with a non-related discipline degree must demonstrate competency in applied maths and chemistry.
MASTER OF INFRASTRUCTURE ENGINEERING AND MANAGEMENT

Expert master’s

The 21st century presents a vital challenge for civil engineering. As infrastructure grows older, the need for strategic planning, design, construction and maintenance to prolong use becomes greater.

The planning, design, construction and maintenance of infrastructure is crucial to the global economy. Skilled professionals are required to maintain ageing infrastructure, integrate new infrastructure into existing systems, and expand existing infrastructure — and it must be done in a way that’s socially, environmentally and financially sustainable. The Master of Infrastructure Engineering and Management equips you to take on these challenges.

This program is delivered online. There are no classes to attend, making it ideal for students who wish to combine full-time work with part-time study.

To find out more visit monash.edu/engineering/master-infrastructure

Entry requirements

Depending on your prior qualifications and experience, you may be eligible for entry credit, which reduces the duration. Selection is based on your previous academic achievement in your prior qualification/s that must be accredited to the equivalent Australian level specified in the table below.

<table>
<thead>
<tr>
<th>ELIGIBILITY</th>
<th>Duration¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree (or equivalent) in engineering or a related field²</td>
<td>1.5</td>
</tr>
<tr>
<td>Bachelor’s (hons) degree (or equivalent) or graduate diploma (or equivalent) in engineering or a related field²</td>
<td>1</td>
</tr>
</tbody>
</table>

English language level

Level A (see page 7).

¹ Even if you’re eligible for entry credit, you don’t need to take it. You may apply for and complete the longer duration.
² Related fields include construction, infrastructure, architecture, quantity surveying, project management, and property or asset management.

I chose the Master of Infrastructure Engineering and Management at Monash University because the course comprised units that were appropriate to advance my career, and the mode of study permitted work-study balance. I was able to complete my studies within two years, while working full time.”

SYLVESTER OTUMBO
Manager Operations,
Wagga Wagga City Council (Regional Government Body in Australia)
Master of Infrastructure Engineering and Management
EXPAND YOUR CAREER

The program was developed in response to the growing need for industry professionals to be aware of the characteristics and significance of infrastructure, including its technological, economic, environmental and social impact.

The Master of Infrastructure Engineering and Management is for managers, engineers and technical staff who want to undertake planning, design, construction and management of assets in transport, water and built infrastructure under local and state governments. The industry advisory committee of the course has representatives from major industry sectors and oversees the relevance of unit offerings to contemporary needs.

Our graduates work in the management of infrastructure such as roads, railways, buildings, bridges, tunnels, dams and pipelines, having developed their knowledge to address the important challenges of this ever-expanding industry.
MASTER OF TRANSPORT AND TRAFFIC

Expert master’s

Traffic congestion, safety, environmental impacts and the efficiency of transport operations are global concerns.

With transport systems under pressure to deliver better economic, social and environmental results for the community, there’s a growing demand for professionals prepared to tackle these challenges.

Our Master of Transport and Traffic responds to the need for engineers with transport expertise including its technological, economic and social effects.

As a Master of Transport and Traffic graduate you could become into a transformational leader in the transport and traffic profession.

You will explore the many dimensions of the transport and traffic field while being taught alongside inspiring like-minded professionals.

• Study when it suits you
• Study where you like
• Complete a work relevant project
• Chart your own course

This program is delivered online. There are no classes to attend, making it ideal for students who wish to combine full-time work with part-time study. You’ll have access to structured learning resources and complete a range of individual and group learning activities through unit-specific websites.

To find out more visit monash.edu/engineering/master-transport

Entry requirements

Depending on your prior qualifications and experience, you may be eligible for entry credit, which reduces the duration. Selection is based on your previous academic achievement in your prior qualification/s that must be accredited to the equivalent Australian level specified in the table below.

<table>
<thead>
<tr>
<th>ELIGIBILITY</th>
<th>Duration¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree in a related field²</td>
<td>1.5</td>
</tr>
<tr>
<td>Bachelor’s degree (hons) in a related field²</td>
<td>1</td>
</tr>
</tbody>
</table>

English language level

Level A (see page 7).

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I chose the Masters course at Monash University because I knew that in my chosen area of transport engineering, my undergraduate course had only been able to ‘scratch the surface’ of the range of technical disciplines that underpin and interface with transport engineering.

During my masters course, I developed significant new skills in statistics, economic policy, and survey methods, as well as the core technical areas such as transport modelling, transport planning, and transport technology. I have used pretty much all of these in my career in the public sector since then. I would not be as conversant with experts across a range of technical areas without this input.”

ANITA CURNOW
Executive Director, Infrastructure and Resources, Forest Fire and Regions, Department of Environment, Land, Water and Planning | Australian Government Department | Master of Engineering Science, now the Master of Transport and Traffic
WHERE WILL A CAREER IN TRANSPORT TAKE YOU?

If you work in the transport and traffic profession, or want to enter this dynamic field, this degree could be your passport to rewarding career opportunities.

The Master of Transport and Traffic gives you a pathway to new career opportunities in the private and public sector in areas including transport planning and policy, transport operations, public transport, traffic engineering and management. Graduates from the program typically work as senior professionals in local, state and federal government agencies such as road and transport authorities, public and private sector transport operators and local and international consulting organisations.

Transport education and research programs have been offered by Monash University for more than 50 years. Over that period the program has developed a deserved international reputation for being academically rigorous and practical.