Be true to you
Profile

“I studied production engineering in Venezuela and wanted to take a step forward in my studies to build my professional potential. I felt that a postgraduate qualification would give me the skills and knowledge required to find great work opportunities in the future. I've undertaken two internships as part of my course, both in large plants. These experiences helped me to learn how to understand processes and the needs of the team, in order to propose improvements and develop tools for them.”

Maria Grisanti (cover)
Master of Engineering (Management)
Advanced Manufacturing Precinct

The Advanced Manufacturing Precinct uses new industrial platform technologies to discover innovative ways of using composite materials.

Housing a range of specialised equipment, with a focus on additive and subtractive technologies, the Advanced Manufacturing Precinct provides access to cutting-edge technology that helps develop new conceptual products perform multiple, design iterations, as well as highlight developments to existing products. It offers:

— high-speed, multi-axis machining centres
— additive and subtractive process manufacturing in a range of materials
— reverse engineering
— highly trained technical staff
Influence Lives Through Research

RMIT University has world-leading strengths across a wide variety of areas in applied and theoretical research.

Engineering Research at RMIT

RMIT’s researchers are among the best in the world. By completing a research degree at RMIT, you will hone your knowledge and skills under guidance from leaders in your field.

Research at RMIT aims to address issues of global importance and have an impact at local, national and international levels. RMIT has adopted a collaborative approach to identify innovative, timely and ground-breaking solutions that benefit society.

RMIT’s research strengths and expertise cover a broad range of areas, including:

- Aerospace, Mechanical and Manufacturing Engineering
  - Advanced aerospace technologies
  - Industrial systems
  - Renewable energy systems
  - Sports technology innovation
  - Sustainable automotive technologies
  - Virtual engineering platforms

- Civil, Environmental and Chemical Engineering
  - Innovative structures and materials
  - Rheology and materials processing
  - Water technologies and tools

- Electrical and Computer Engineering
  - Biomedical engineering
  - Communication technologies
  - Complex systems and information processing
  - Micro-nano-materials and devices
  - Power, energy and control

A masters or PhD by research program primarily consists of a thesis project conducted under supervision of and in consultation with RMIT’s academic staff. You will also undertake a small coursework component to equip you with the necessary analytical, technical and communication skills to succeed in your research project.

Research Programs

You will undertake a research project under the guidance of your supervisor, culminating in the submission of a thesis or project. A masters by research is completed over four semesters full-time, while a PhD is completed over eight semesters full-time.

RMIT’s modern laboratories, sophisticated industry-standard equipment and collaborative environments will enable you to deliver practical solutions to real-world challenges. You will be connected with RMIT’s research institutes, international research institutions, and partner organisations such as the CSIRO.

Masters and PhD by Research

Program Code | Specialist Discipline | Further Information
--- | --- | ---
MR218 | Master of Engineering (Civil Engineering) | [www.rmit.edu.au/programs/mr218](http://www.rmit.edu.au/programs/mr218)
DR216 | PhD (Mechanical and Manufacturing Engineering) | [www.rmit.edu.au/programs/dr216](http://www.rmit.edu.au/programs/dr216)
DR217 | PhD (Chemical Engineering) | [www.rmit.edu.au/programs/dr217](http://www.rmit.edu.au/programs/dr217)
DR218 | PhD (Civil Engineering) | [www.rmit.edu.au/programs/dr218](http://www.rmit.edu.au/programs/dr218)

You can find further details about individual programs by typing in the specific URL listed above.

For more information about College of Science, Engineering and Health research centres, affiliations and research expertise visit [www.rmit.edu.au/seh](http://www.rmit.edu.au/seh).

To find out about research programs, supervision and entry requirements visit [www.rmit.edu.au/graduateresearch](http://www.rmit.edu.au/graduateresearch).


To Start Your Career in Research:

1. Complete your bachelor degree with high grades.
2. Complete an honours degree or a masters degree by research.
3. If you excel in your honours degree or masters degree by research, you can continue your research in a doctorate (PhD). This involves four years of research under the supervision of a senior researcher.

For further information about entry requirements and the application process for postgraduate by research programs, please refer to the How to Apply section of this brochure.

A postgraduate research degree can pave the way to a career in research, or demonstrate your problem-solving, work and technical skills to prospective employers. With a research degree, you will stand out from the crowd.
Civil engineering encompasses a range of structures and I always enjoyed studying bridges. Bridges play a vital role in today’s world and are considered a very crucial structural component of civil engineering.

Bridges have a lifespan, so aging is definite. As a bridge ages, deterioration starts taking place and it becomes the responsibility of the owner to best control the degradation process and prevent any failure. I decided to do research in this sector and design a cost-effective method to quantitatively assess the condition of structures so that bridges can remain in service for a desired time without any major issues.

I decided to undertake my PhD at RMIT as I knew that their research work is not just limited to books and publications. At RMIT they talk about the application aspects of research in day-to-day life.

The tool I developed as part of my PhD is easy to use and upgrade without any cost. It will help bridge owners make informed decisions about current and future projects.

Amit Sagar
PhD (Civil Engineering)
This program prepares you to become a leader, consultant or manager in the aerospace and aviation industries. You will learn how to analyse complex engineering assets in the aerospace and aviation environment, and develop engineering, scientific and technological solutions to ensure problem-free operations.

As the aerospace industry is associated with cutting-edge technology, you will learn how to find innovative solutions for challenging problems and opportunities from an array of possibilities. These skills will be gained through systematic problem-solving and engineering/technological systems design methodologies operating in the industry.

Learning and Teaching
A range of learning and teaching approaches are used within this program to develop your capabilities to assist you in developing skills as an independent and lifelong learner.

RMIT University is committed to providing you with an education that strongly links formal learning with professional practice. You will undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional practice. You will complete these activities in real-work contexts or situations – any or all of these aspects of a work-integrated learning (WIL) experience may be simulated.

Program Structure
The Master consists of 192 credit points. The program aims to provide you with skills to step up as a project leader, consultant or manager with advanced knowledge to lead the introduction of new technologies and operating practices in aerospace and aviation organisations. Core subject areas include structures and materials, aerodynamics and performance, propulsion, avionics and ATM systems, flight dynamics and control and aircraft design. The program is complemented by a range of elective courses relevant to the aviation industry allowing you to tailor your study plan according to your professional interests.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Year One</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft and Air Transportation</td>
<td>12</td>
</tr>
<tr>
<td>Advanced Aircraft Structural Analysis</td>
<td>12</td>
</tr>
<tr>
<td>Aerodynamics and Flight Performance</td>
<td>12</td>
</tr>
<tr>
<td>Aerospace Materials</td>
<td>12</td>
</tr>
<tr>
<td>Thermofluids and Propulsion Systems</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year Two</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Design and Optimisation</td>
<td>12</td>
</tr>
<tr>
<td>Avionics and ATM Systems</td>
<td>12</td>
</tr>
<tr>
<td>Flight Dynamics and Control</td>
<td>12</td>
</tr>
<tr>
<td>Masters Research Project</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective Courses (Year One or Two)</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced CAE</td>
<td>12</td>
</tr>
<tr>
<td>Aircraft Certification</td>
<td>12</td>
</tr>
<tr>
<td>Aircraft Maintenance</td>
<td>12</td>
</tr>
<tr>
<td>Aircraft Structural Integrity</td>
<td>12</td>
</tr>
<tr>
<td>Airline Operations Management</td>
<td>12</td>
</tr>
<tr>
<td>Airport Design and Operations</td>
<td>12</td>
</tr>
<tr>
<td>Airworthiness Management Frameworks</td>
<td>12</td>
</tr>
<tr>
<td>Aviation Safety Systems</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Sustainability in Aviation</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Risk Management in Aviation</td>
<td>12</td>
</tr>
<tr>
<td>Human Factors in Aviation Safety</td>
<td>12</td>
</tr>
<tr>
<td>Incident and Accident Investigation</td>
<td>12</td>
</tr>
<tr>
<td>System Engineering Principles</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: All courses listed may not be available each semester.
Industry Connections

Industry plays a vital role in the development, delivery and assessment of the program through membership of the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni. You will undertake activities and interact with industry and communities in real-work contexts or situations. Any or all of these aspects of a WIL may be simulated.

Work-integrated learning has been incorporated into the final year Master’s Research Project where you will work on a capstone project. These projects are either directly connected with industry or simulate the situation of a graduate in industry reporting to a supervisor with whom they meet regularly. In cases where the project is directly connected with industry, the industry partner is usually involved in assessment.

As part of the master, you must also complete at least 12 weeks of work experience in a professional engineering environment. Work experience completed prior to joining this program and after commencing a relevant bachelor (see Entry Requirements) will count towards the work experience component.

Career

At the completion of the program you will be equipped to further your career aspirations in aerospace engineering, operations, or consultancy in aviation, mechanical engineering and automotive engineering as:

--- a research and development leader introducing new technologies and research and development
--- a team leader implementing operational strategies
--- an operations manager responsible for the competitive performance of a unit
--- a consultant providing specialist technical advice to industry

The aerospace and aviation industry is growing, especially in the Asian region. Massive passenger growth means more aircraft, larger and more airports, and larger and new airlines. All of these lead to more aerospace engineers, and more aviation-related employees who will need more leaders as these areas grow.

Professional Recognition

This program does not yet have accreditation by Engineers Australia. Accreditation will be sought for this program as soon as it is feasible to do so within the accreditation timelines set by Engineers Australia.

Australia is one of 15 countries that are signatories to the International Engineering Alliance, also known as the Washington Accord, for professional engineers.

Pathways

You may be eligible for advanced standing based on your previous studies.

Entry Requirements

--- An Australian Bachelor of Technology, Bachelor of Engineering Science or Bachelor of Engineering degree, or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics or automotive engineering, with a Grade Point Average (GPA) of at least 2.5 out of 4.0; or
--- An Australian Master of Engineering or PhD, or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics or automotive engineering.

--- Applicants with a GPA less than 2.5 out of 4.0 may be considered on a case-by-case basis, with consideration given to at least two years of relevant work experience in industry.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile

“The aerospace field is my passion. I studied a Bachelor of Engineering in Aircraft Engineering at Kingston University in London, UK. Since then I’ve worked in the aviation industry but had a desire to learn more.

“I decided to study the Master of Engineering (Aerospace and Aviation) at RMIT University because the program provides a good blend of engineering and aviation.

“A highlight of my studies has been the lectures and the experience-sharing from RMIT lecturers and professors.

“I am currently employed at Virgin Australia overseeing Quality Management System (QMS) activities. In the past I have worked on various cost-saving projects such as aircraft summer/winter operation maintenance programs. I believe that my postgraduate studies will allow me to further progress my career at the airline.”

Syed Amjad Ali
Master of Engineering (Aerospace and Aviation)

* Program is now called the Master of Engineering (Aerospace)
Master of Engineering

Airworthiness

This program is designed for engineers seeking specialist knowledge and skills in the field of airworthiness engineering and management. The field of airworthiness encompasses all engineering disciplines required to develop, design, manufacture, certify, operate and maintain aircraft, both civil and military. This program will provide you with the specialised knowledge and expertise in the areas of initial and continuing airworthiness engineering and management.

The objectives of this program are to educate you as an airworthiness engineering professional who is able to:

- analyse complex engineering assets in the initial and continuing airworthiness engineering environment, and develop engineering, scientific and technological solutions to ensure problem-free operations
- find innovative solutions from an array of possibilities through systematic problem-solving and engineering/technological systems design methodologies operating in the aircraft design, engineering, certification and maintenance industry
- analyse and implement novel solutions to challenging problems and opportunities in aerospace and aviation systems
- communicate with a wide range of key airworthiness engineering and engineering management stakeholders in a professional and effective manner
- build, lead and work in teams with trust and respect
- achieve results in an industry characterised by global competition and driven by rapidly changing market forces

Learning and Teaching

Lectures, tutorial and laboratory sessions run during the afternoon and evening to fit in with the work commitments of part-time students. A number of learning and teaching approaches are used within this program to develop your capabilities and to assist you in developing skills as an independent and lifelong learner. These approaches may include classroom teaching and/or online sessions, laboratory sessions, problem-based learning, assignments and projects.

RMIT University is committed to providing you with an education that strongly links formal learning with professional practice. You will undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional practice. You will complete these activities in real-work contexts or situations – any or all of these aspects of a work-integrated learning (WIL) experience may be simulated.

Program Structure

The Master consists of 96 credit points. The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Certification</td>
<td>12</td>
</tr>
<tr>
<td>Aircraft Maintenance</td>
<td>12</td>
</tr>
<tr>
<td>Airworthiness Management Frameworks</td>
<td>12</td>
</tr>
<tr>
<td>Aviation Safety Systems</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Risk Management in Aviation</td>
<td>12</td>
</tr>
<tr>
<td>Masters Minor Research Project</td>
<td>24</td>
</tr>
</tbody>
</table>

Elective Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Structural Integrity</td>
<td>12</td>
</tr>
<tr>
<td>Human Factors in Aviation Safety</td>
<td>12</td>
</tr>
</tbody>
</table>

The program includes the Master’s Minor Research Project, which constitutes a capstone experience. This is relevant to the different airworthiness engineering and management aspects taught during the program. It also provides realistic work situations either in an industry project environment or in a simulated industry setting with operational constraints. In either case, you will be jointly supervised by an academic and a qualified industry professional currently investigating and researching in airworthiness engineering within the civil/defence domain.
Industry Connections

The School of Aerospace, Mechanical and Manufacturing Engineering has research and educational partnerships with the following airworthiness industry bodies/organisations:

Civil and Military Aviation Regulators
- Australian Civil Aviation Safety Authority (CASA)
- The Directorate General Technical Airworthiness of the Australian Defence Force (DGTA-ADF)

Aircraft Design Organisations
- BAE Systems Australia
- Thales Australia
- Boeing Australia
- Mahindra Aerospace

Aircraft Maintenance Organisations
- Aircraft Operators
- Boeing Defence Australia
- Qantas Engineering

Aircraft Operators
- Qantas
- Tigerair

Research and Development Organisations
- Defence Science and Technology Organisation (DSTO) of the Australian Department of Defence
- Advanced Composite Structures Australia

Career

Typical career paths include:
- airworthiness engineering in design, engineering and manufacturing organisations
- airworthiness policy and regulations’ formulation and administration in aviation regulating authorities
- aircraft and aeronautical product design and certification in design and engineering organisations
- aircraft maintenance management in airlines, continuing airworthiness management organisations and maintenance organisations

Pathways

You may be eligible for advanced standing based on your previous studies.

Entry Requirements

- A four-year Bachelor of Engineering degree specialising in Aerospace, Aeronautical or Avionics engineering or other relevant engineering field, at Australian Qualifications Framework (AQF) level 8 or equivalent, with a minimum Grade Point Average (GPA) of 2.0 out of 4.0, or a minimum of 60% average.
  OR
- A four-year Bachelor of Engineering degree specialising in Aerospace, Aeronautical or Avionics engineering or other relevant engineering field, at AQF level 7 or equivalent, with a minimum GPA of 2.0 out of 4.0, or a minimum of 60% average AND at least two years of relevant and current industry experience (to be considered on a case-by-case basis).
Master of Engineering
Civil Engineering

Program Code
MC257

Campus
City campus
Some projects may be held on Bundoora campus

Duration
2 years full-time or 4 years part-time.
Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.
Please refer to Fees Explained on page 50.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc257

This program will deepen your knowledge in the civil engineering fields of design, infrastructure planning, sustainability, project management and transport engineering.

The Master of Engineering (Civil Engineering) will provide you with advanced knowledge and skills in civil engineering to enhance your career prospects in relevant industry sectors.

The program will provide you with skills to step up into roles including project leader, designer, consultant and manager with the knowledge and skills to lead construction projects, and introduce new infrastructure and transport systems.

You will gain knowledge in high-demand areas such as:

- infrastructure planning and management
- infrastructure asset management
- railway infrastructure
- engineering geology and advanced laboratory testing
- stability of earth structures
- advanced transport infrastructure

With an emphasis on project-based and multidisciplinary learning, you will develop professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

Learning and Teaching
This program incorporates blended learning, which includes face-to-face teaching, intensive and e-learning delivery modes.

You will undertake a comprehensive program of supervised laboratory work and industry visits to relevant organisations. The laboratory program will allow you to use specialist equipment in civil engineering for both testing and researching problems and solutions.

Through common core courses you will engage with the wider engineering community, enhancing your cohort experience and enabling multidisciplinary learning.

You will have access to online resources through the myRMIT student portal.

Program Structure
The program consists of 192 credit points and will meet Australian Qualifications Framework (AQF) level 9 Learning Outcome.

The program shares a common first and fourth semester with other masters of engineering programs and includes a research component.

Year One
Complete the following four courses:
- Sustainable Engineering Practice and Design
- Innovation and Technology Management
- Risk and Project Management
- Modelling and Simulation of Engineering Systems; and

Select and complete four of the following courses:
- Infrastructure Planning and Management
- Infrastructure Asset Management
- Railway Infrastructure
- Engineering Geology and Advanced Laboratory Testing
- Mining Geomechanics and Civil Tunneling
- Stability of Earth Structures
- Systems Engineering for Civil Engineers

Year Two
Select and complete three of the following courses:
- Advanced Transport Infrastructures
- Rail and Transport Engineering
- Advanced Geotechnical Design and Construction
- Advanced Structural Assessment
- Ethics and Legal Studies; and

Complete the following one course:
- Research Methods in Engineering; and

Complete the following one course:
- Master’s Research Project; or

Complete the following two courses:
- Master’s Research Project Part 1
- Master’s Research Project Part 2

Part-Time Delivery
Part-time students should enrol in two courses per semester, beginning with core courses in the first year of study and then moving into the relevant specific courses in years two and three, followed by the research project in year four.
Industry Connections
The program includes exposure to a range of Australian and international companies through industry visits and may include site visits. Industry plays a vital role in the development, delivery and assessment of the program through the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.

The program also facilitates networking opportunities with fellow engineering masters students from a diverse of disciplines and industries.

Career
There is a demand for civil engineering in Australia and overseas, particularly South-East Asia and East Asia.

Civil engineers work in the construction, infrastructure, mining, building services, water, and transport and logistics sectors.

Professional Recognition
Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways
If you have completed a Bachelor of Engineering program in Civil Engineering, at AQF level 8 or equivalent, where this program is accredited by Engineers Australia, you may be eligible to receive up to 96 credit points of advanced standing.

At completion of the Master of Engineering (Civil Engineering) you will meet the eligibility criteria to apply for the PhD (Civil Engineering).

Entry Requirements
— A bachelor degree in engineering, engineering science or engineering technology (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: civil, structural, mining, or environmental engineering, engineering systems or equivalent; or
— A Master of Engineering by coursework in one of the relevant disciplines listed above.

Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration. International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Step up into roles including project leader, designer, consultant and manager with the knowledge and skills to lead construction projects and introduce new infrastructure.

Gain knowledge in high-demand areas such as railway infrastructure.
Master of Engineering

Computer Aided Engineering and Design

This program aims to integrate advanced digital engineering design and digital manufacturing technologies with product life-cycle management.

This program focuses on technologies supporting the entire life cycle of an engineering product. This incorporates all design aspects for manufacturing and maintenance, and the disassembly, disposal, recycling and reuse of industrial products.

You will develop the skills to meet the global demand for specialist engineers and industrial designers. The program provides a holistic understanding of the engineering life-cycle management process based in integrated computer aided engineering (CAE) platforms. These platforms are now regarded by industry as best practice.

The application of cutting-edge technical knowledge and expertise in the creation of products and associated services will have strong potential to bring sustainable growth and high economic return.

Created in partnership with industry, the program uses a project-based learning approach that will expose you to advanced CAE concepts and skills. You will use CAE in practical activities and industry-led projects based on 3D real-time, life-like learning experiences.

You will be exposed to state-of-the-art infrastructure at the Advanced Manufacturing Precinct is equipped with the latest 3D visualisation technology and advanced digital manufacturing machines to realise your designs in physical form. You will also have access to the super-computer facilities that are available in the VPAC High Performance Computing facility.

Learning and Teaching

Lectures, tutorial and laboratory sessions run during the afternoon and evening to fit in with the work commitments of part-time students. A number of learning and teaching approaches are used within this program to develop your capabilities and to assist you in developing skills as an independent and lifelong learner. These approaches may include classroom teaching and/or online sessions, laboratory sessions, problem-based learning, assignments and projects.

The program will also incorporate a virtual collaborative project-management environment to bring together students from different backgrounds, and where appropriate, suppliers. This community will be able to share ideas and resources and collaborate on common projects in the virtual environment.

Program Structure

The Master consists of 96 credit points.

In this program, Masters Engineering Project Part 1 and Masters Engineering Project Part 2 provide realistic work situations either in an industry project environment or in a simulated industry setting with operational constraints. You will receive supervision from an internal RMIT supervisor and you may also have an external supervisor (such as an industry-based practitioner).

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Lifecycle Design and Management</td>
<td>12</td>
</tr>
<tr>
<td>Advanced CAE</td>
<td>12</td>
</tr>
<tr>
<td>Masters Engineering Project Part 1</td>
<td>24</td>
</tr>
<tr>
<td>Virtual Validation, Documentation and</td>
<td>12</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>Computer Integrated Manufacturing</td>
<td>12</td>
</tr>
<tr>
<td>Masters Engineering Project Part 2</td>
<td>24</td>
</tr>
</tbody>
</table>

Program Code: MC244
Campus: City campus
Duration: 1 year full-time or 2 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places: $28,800 per year full-time.
Please refer to Fees Explained on page 50.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Dr Toh Yen Pang
School of Aerospace, Mechanical and Manufacturing Engineering
Tel. +61 3 9925 6128
Email: tohyen.pang@rmit.edu.au
www.rmit.edu.au/aeromecheng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL: www.rmit.edu.au/programs/mc244
Industry Connections

The program was created in consultation with industry leaders from BAE Systems Australia, Boeing Australia, Advea Engineering, Futuris Automotive Interiors, Department of Defence, AGL and Dassault Systèmes.
The program gives you access to online learning resources.

Career

Graduates will have a comprehensive understanding of product life-cycle management including design, manufacturing, maintenance and recycling of industrial products in a range of industrial settings.

Australian Government, Department of Employment, employment projections predict a growth in the sectors of computer system design, operation and maintenance of mechanical and process plant and installations, and programs that coordinate the manufacturing activities to ensure usage of resources is cost effective.

Professional Recognition

You may be eligible for worldwide industry certification from Dassault Systèmes in key industry software.

Global Connections

Through partner organisations in Europe, Asia and the US, the RMIT International Industry Experience and Research Program (RiiERP) offers workplace training and academic research placements between six and 12 months.

The program will make use of the links between RMIT, Dassault Systèmes and Memko Pty Ltd to create opportunities for students to carry out their capstone projects at local or overseas institutions or companies.

Pathways

Upon successful completion of this program you may be eligible to undertake further studies in related programs at RMIT University, subject to each program’s entry requirements. More specifically, you may be eligible to undertake further studies in postgraduate research programs.

Entry Requirements

— A four-year bachelor honours degree in any engineering field, at Australian Qualifications Framework (AQF) level 8 or equivalent, with a minimum Grade Point Average (GPA) of 2.0 out of 4.0, or a minimum of 60% average; or
— A four-year bachelor degree in any engineering field, at AQF level 7 or equivalent, with a minimum GPA of 2.0 out of 4.0, or a minimum of 60% average, and at least two years of relevant and current industry experience; or
— A four-year non-engineering bachelor degree, at AQF level 8 or equivalent, with a specialisation in design (relevant to the engineering field), with a minimum GPA of 2.0 out of 4.0, and at least two years of relevant and current industry experience.

Relevant industry experience includes engineering practice, technical design in support of engineering practice, or industrial design practice that incorporates engineering.

International qualifications are assessed according to the AQF.

Entry Requirements

— A four-year bachelor honours degree in any engineering field, at Australian Qualifications Framework (AQF) level 8 or equivalent, with a minimum Grade Point Average (GPA) of 2.0 out of 4.0, or a minimum of 60% average; or
— A four-year bachelor degree in any engineering field, at AQF level 7 or equivalent, with a minimum GPA of 2.0 out of 4.0, or a minimum of 60% average, and at least two years of relevant and current industry experience; or
— A four-year non-engineering bachelor degree, at AQF level 8 or equivalent, with a specialisation in design (relevant to the engineering field), with a minimum GPA of 2.0 out of 4.0, and at least two years of relevant and current industry experience.

Relevant industry experience includes engineering practice, technical design in support of engineering practice, or industrial design practice that incorporates engineering.

International qualifications are assessed according to the AQF.
Master of Engineering

Electrical and Electronic Engineering

Advance your career in electrical and electronic industries through this postgraduate program. This program enables you to develop expertise in the analysis, design, implementation and operation of electrical and electronic devices, systems and services.

You will enhance your professional skills in research, problem-solving, communication, teamwork and leadership.

Exciting developments in electrical energy generation and distribution, automation, control, instrumentation, communication and computing technologies present you with excellent career opportunities when you graduate from this program.

Learning and Teaching

Classes are taught by experts in their fields. There is a strong emphasis on laboratory work and professional engineering projects to put theory into practice and to enhance skills in research, problem-solving, communication, teamwork and leadership.

Program Structure

The Master consists of 192 credit points. In addition to compulsory core courses, you’ll select technical electives in electrical, electronic, telecommunication, network and computer engineering to match your career goals. In both years of the program you’ll undertake major engineering projects to apply your technical skills and develop communication, teamwork and project management skills.

You will also complete 12 weeks of professional engineering experience to develop the graduate capabilities required by Engineering Australia.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Circuit and System Simulation</td>
<td>12</td>
</tr>
<tr>
<td>Computer Robotics Control</td>
<td>12</td>
</tr>
<tr>
<td>Digital Design Automation</td>
<td>12</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>12</td>
</tr>
<tr>
<td>Digital System Design (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Electrical Energy Conversion</td>
<td>12</td>
</tr>
<tr>
<td>Image Systems Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Mobile and Personal Communication Systems (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Network Access Systems (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Network Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Network Management and Security</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Technology</td>
<td>12</td>
</tr>
<tr>
<td>Power System Analysis and Control</td>
<td>12</td>
</tr>
<tr>
<td>Professional Engineering Project</td>
<td>24</td>
</tr>
<tr>
<td>Professional Engineering Advanced Project</td>
<td>24</td>
</tr>
<tr>
<td>Professional Industrial Experience</td>
<td>12</td>
</tr>
<tr>
<td>Project Management and Entrepreneurship (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Real Time Systems Design</td>
<td>12</td>
</tr>
<tr>
<td>Renewable Electrical Energy Systems</td>
<td>12</td>
</tr>
<tr>
<td>RF and Mixed Signal Design</td>
<td>12</td>
</tr>
<tr>
<td>Satellite Communication Systems Engineering PG</td>
<td>12</td>
</tr>
<tr>
<td>Sensors and Measurement Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Statistical Methods</td>
<td>12</td>
</tr>
</tbody>
</table>

Program Code Campus

MC180 City campus

Duration

2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee

Full-Fee Places $28,800 per year full-time.* Please refer to Fees Explained on page 50.

* Commonwealth supported places are available.

How to Apply

Apply directly to RMIT University www.rmit.edu.au/programs/apply/direct.

Please refer to How to Apply on page 51.

Further Information

School of Electrical and Computer Engineering
Tel. +61 3 9925 2090
Email: eleceng@rmit.edu.au
www.rmit.edu.au/eleceng

Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc180
Industry Connections

Industry plays a vital role in the development, delivery and assessment of the program through membership of the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni. There are also extensive links with industry, particularly through laboratories that incorporate work-integrated learning through research projects, consulting and industry-sponsored student design projects.

Notable industry links for this program are:

— Dyne Industries Pty Ltd
— API (The Australian Power Institute)
— AEMO (Australian Energy Market Operator)
— United Energy
— SEW-Eurodrive
— AusNet Services
— ANCA (Australian Numerical Controls and Automation)
— Wilson Transformer Company
— Jemena
— Schneider Electric
— Telstra
— Engineers Australia
— IEEE (Institute of Electrical and Electronics Engineers)
— IET (Institution of Engineering and Technology)

Professional Recognition

This program is provisionally accredited by Engineers Australia. This program will be submitted for full accreditation by Engineers Australia as soon as it is feasible to do so within the accreditation timelines set by Engineers Australia.

Australia is one of 15 countries that are signatories to the International Engineering Alliance, also known as the Washington Accord, for professional engineers.

Pathways

Advanced standing may be granted if you hold an appropriate postgraduate qualification or equivalent in relevant fields. Applications will be considered on an individual basis.

Graduates of this postgraduate degree may apply for higher studies by research.

Entry Requirements

— Successful completion of an Australian bachelor degree with a Grade Point Average of at least 2.0 out of 4.0 in Engineering (computer, electronic, telecommunications, electrical, communication, network) or equivalent.
— International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Career

In the private sector, graduates work in the design, manufacture and supply of engineering devices, systems and services as technical experts, technical or business managers, or executive officers.

In the public sector, graduates may develop essential services for the community in areas such as telecommunications, networks, energy, transportation, security, defence, health, education, emergency services and environment protection.

Graduates may also establish their own businesses in local and global markets, or undertake higher studies by research.

Profile

“T always wanted to be an electronic engineer. I undertook a Bachelor of Electronics and Telecommunications Engineering at Mumbai University, India. My bachelor degree presented a macro view of electronic design and fabrication technologies, which triggered my interest in learning more.

“Engineering at RMIT has always had an excellent reputation, and I decided to study at RMIT because I was especially impressed with the cleanroom lab facilities and the related subjects that were offered.

“My studies are concentrated to electronic designs and fabrication. At the moment I am working on MEMS micro-systems and meta-material fabrication.

“I undertook a summer research scholarship for three months with a collaboration between NICTA and RMIT. I also received a one-month Winter research scholarship from RMIT. These scholarships gave me comprehensive research experience and helped me decide that research is something that I greatly enjoy.

“I am currently doing a research project with the Functional Materials and Microsystem Research Group at RMIT under Dr Sharath Sriram and Dr Madhu Bhaskaran.

“My plan is to continue with research as a PhD student, and I hope to continue my career as a research fellow at a university.”

Shruti Nirantar
Master of Engineering (Electrical and Electronic Engineering)
Master of Engineering  
Electrical Engineering

Program Code  | Campus  
--- | ---  
MC235  | City campus

Duration  
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee  
Full-Fee Places  
$28,800 per year full-time.*
Please refer to Fees Explained on page 50. * Commonwealth supported places are available.

How to Apply  
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct. Please refer to How to Apply on page 51.

Further Information  
School of Electrical and Computer Engineering  
Tel. +61 3 9925 2090  
Email: eleceng@rmit.edu.au  
www.rmit.edu.au/eleceng  
Info Corner  
330 Swanston Street (cnr La Trobe Street)  
Melbourne VIC 3000  
Tel. +61 3 9925 2260  

URL  
www.rmit.edu.au/programs/mc235

Prepare for a leadership role in the internationally fast-growing sectors of power engineering and energy.

You will focus on technical areas of electrical engineering, including renewable energy and high-voltage systems.

The program will suit you if you’re an electrical engineer graduate wanting specialist knowledge in the latest power engineering technologies, or you’re a graduate from another discipline seeking a career change to this sector.

As a graduate, you will have leading-edge knowledge and skills in power engineering with effective business skills in communication, teamwork and management.

Learning and Teaching  
Classes are taught by experts in their fields. There is a strong emphasis on laboratory work and professional engineering projects to put theory into practice and to enhance research, teamwork, leadership, communication and project management skills.

Tutorial and laboratory sessions are run in the afternoon and evening to fit in with the work commitments of part-time students.

Program Structure  
The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points). During this program you will:

— undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional or vocational practice
— interact with industry and the community when undertaking these activities
— complete these activities in real-work contexts or situations

Any or all of these aspects of a work-integrated learning (WIL) experience may be simulated.

Year One  
You will undertake the Professional Engineering Project and work within a team on a project under the guidance of a professional engineer (usually an academic mentor). The project will require the team to work together to achieve a working product. You will be expected to act in more than one role in the team at different times to expand your experience and capabilities.

Year Two  
You will undertake the Professional Engineering Advanced Project. You will spend two semesters working on an individual project to further develop your research, design and project managing skills. Some projects may include the opportunity to work within the local engineering industry. These courses provide realistic work situations, allowing you to learn, apply and demonstrate your professional engineering practice.

In some of the core courses, such as Protection and High Voltage Engineering and Renewable Electrical Engineering Systems, talks by guest speakers from the industry as well as visits to industrial sites such as power plants and substations will be part of the course delivery.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Power Systems</td>
<td>12</td>
</tr>
<tr>
<td>Antennas for Mobile and Satellite Communications PG</td>
<td>12</td>
</tr>
<tr>
<td>Audio Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Bioelectromagnetism</td>
<td>12</td>
</tr>
<tr>
<td>Biosignal Processing and Computing</td>
<td>12</td>
</tr>
<tr>
<td>Circuit and System Simulation (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Computer Robotics Control</td>
<td>12</td>
</tr>
<tr>
<td>Digital Design Automation</td>
<td>12</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>12</td>
</tr>
<tr>
<td>Electrical Energy Conversion</td>
<td>12</td>
</tr>
<tr>
<td>Electrical Transport Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Electronic Manufacturing (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Electronic Materials</td>
<td>12</td>
</tr>
<tr>
<td>Image Systems Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Automation</td>
<td>12</td>
</tr>
<tr>
<td>Intelligent Systems</td>
<td>12</td>
</tr>
<tr>
<td>Internet Communication Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Introduction to Electrical Building Design</td>
<td>12</td>
</tr>
<tr>
<td>Medical Engineering and Instrumentation (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Microcomputer Systems Design</td>
<td>12</td>
</tr>
<tr>
<td>Microwave Circuits</td>
<td>12</td>
</tr>
<tr>
<td>Mobile and Personal Communications Systems Engineering PG</td>
<td>12</td>
</tr>
<tr>
<td>Network Design and Performance</td>
<td>12</td>
</tr>
<tr>
<td>Network Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Communication Systems PG</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Technology PG</td>
<td>12</td>
</tr>
<tr>
<td>Power Electronic Converters</td>
<td>12</td>
</tr>
<tr>
<td>Power System Analysis and Control</td>
<td>12</td>
</tr>
<tr>
<td>Project Management and Entrepreneurship (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Project Management and Technical Risk</td>
<td>12</td>
</tr>
<tr>
<td>Protection and High Voltage Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Radar Systems 1</td>
<td>12</td>
</tr>
<tr>
<td>Radar Systems 2</td>
<td>12</td>
</tr>
<tr>
<td>Real Time Estimation and Control</td>
<td>12</td>
</tr>
<tr>
<td>Real Time Systems Design</td>
<td>12</td>
</tr>
<tr>
<td>Renewable Electrical Energy Systems</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods</td>
<td>12</td>
</tr>
<tr>
<td>Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Satellite Communication Systems Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Semiconductor Device Fabrication (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Sensors and Measurement Technologies</td>
<td>12</td>
</tr>
<tr>
<td>Switched Mode Power Supplies</td>
<td>12</td>
</tr>
<tr>
<td>Variable Speed Drives</td>
<td>12</td>
</tr>
</tbody>
</table>
Industry Connections
Industry plays a vital role in the development, delivery and review of the program through membership of the School Program Advisory Committee (PAC). Other members of the PAC include alumni and academic staff. There are also extensive links with industry, particularly through laboratories that incorporate work-integrated learning, through research projects, consulting, and through industry-sponsored student design projects. Notable industry links for this program are:
- API (The Australian Power Institute)
- AEMO (Australian Energy Market Operator)
- United Energy
- AusNet Services
- Jemena
- Wilson Transformer Company
- Schneider Electric
- Analog Devices Australia

Career
The sectors of smart grid technology and renewable energy are experiencing rapid growth. As a result, the field of power engineering has a strong employment market, offering a range of opportunities to electrical engineers.

Electrical engineers work in the electrical supply industry where their knowledge of transformers, motors and generators is needed across all areas of operations.

Public transport providers also need electrical engineers to develop and maintain the systems that keep trains running and signals operating. With a push to modernise railway infrastructure, engineers are in demand.

Robots and automation have long been part of the manufacturing industry. Electrical engineers are now called upon to design and develop next generation control systems.

With an increasing focus on renewable energy, electrical engineers are in a position to be part of the transformation to renewable energy sources.

Professional Recognition
Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways
You may be eligible for advanced standing based on your previous studies.

Entry Requirements
- An Australian bachelor degree with a Grade Point Average (GPA) of at least 2.0 out of 4.0 in engineering (computer, electronic, telecommunications, electrical, communication, or network), or equivalent; or
- An Australian bachelor degree with a GPA of at least 2.0 out of 4.0 in physics (electromagnetic theory), or equivalent; or
- An Australian bachelor degree in any discipline with a GPA of at least 2.0 out of 4.0 and at least five years work experience in the computer, electronic, telecommunications, electrical, communication or network engineering industry, or equivalent.

Applicants applying on the basis of work experience are expected to have skills in analysis, design, and management within the computer, electronic, telecommunications, electrical communication or network engineering industry.

International qualifications are assessed for comparability to Australian qualifications according to the Australian Qualifications Framework (AQF).

Profile
“Not only can electricity bring light to our lives, but it can also make our lives much easier. It’s because of this that I’ve always had a passion for electrical engineering.

“I studied electrical engineering and automation in China, then decided to undertake postgraduate studies so I could get a deeper understanding of the field and enhance my ability to apply my knowledge. I also chose to come to Australia so I could experience a different culture.

“I decided to study at RMIT as it allowed me to choose a range of courses and I liked how the theory related with the practice.

“In the future I’d like to have some overseas experience and work in a job that relates to renewable energy and to reducing the pollution caused by traditional power.

“If you are interested in your domain and want a better platform to learn more, I recommend that you consider postgraduate studies at RMIT.”

Peng Cao
Master of Engineering (Electrical Engineering)
Master of Engineering

Electronic Engineering

Further your studies in electronic, computer, telecommunications and electrical engineering or related studies by acquiring specialised knowledge of advancements in electronic engineering.

Courses go beyond the theory of recent engineering developments, paying particular attention to developing your professional abilities, and focusing on technical, personal and business skills. As a result, you will be well equipped for leadership roles in business and industry.

Qualified technologists with relevant industrial experience are encouraged to apply.

Learning and Teaching

Classes are taught by experts in their fields. There is a strong emphasis on laboratory work and professional engineering projects to put theory into practice and to enhance research, teamwork, leadership, communication and project management skills.

Course contact is generally in the afternoon and evening to fit in with the work commitments of part-time students.

Program Structure

The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points).

During this program you will:

— undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional or vocational practice
— interact with industry and the community when undertaking these activities
— complete these activities in real-work contexts or situations
— have a distinctive source of feedback to you to assist your learning through the above interactions and work context of the program

Work-integrated learning (WIL) experiences will be simulated during the program.

These courses provide realistic work situations, allowing you to learn, apply and demonstrate your professional engineering practice.

Year One

You will take core courses on various areas of system and device design, application materials and fabrication technology as well as elective courses from an approved list. You will also undertake projects that focus on professional engineering practices.

Year Two

You will undertake core and elective courses and project courses that are either an advancement on the professional engineering projects of year one or a large research project. If you are already working in an area related to your research topic, the project can be aligned to the work you are doing.

Elective courses include embedded system design, digital system design, integrated optics, microfluidics and project management. You also have the option within these electives to study project design and problem-solving.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Master</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antennas for Mobile and Satellite Communications PG</td>
<td>12</td>
</tr>
<tr>
<td>Circuit and System Simulation (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>12</td>
</tr>
<tr>
<td>Digital System Design (PG)</td>
<td>12</td>
</tr>
<tr>
<td>EDA Tools and Design Methodologies (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Electronic Materials</td>
<td>12</td>
</tr>
<tr>
<td>Electronic Systems for Automotive Applications</td>
<td>12</td>
</tr>
<tr>
<td>Embedded System Design (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Design with Hardware Description Languages</td>
<td>12</td>
</tr>
<tr>
<td>Image Systems Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Integrated Circuit Design (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Integrated Optics</td>
<td>12</td>
</tr>
<tr>
<td>Microfluidics and Lab-on-a-Chip Devices</td>
<td>12</td>
</tr>
<tr>
<td>MicroNanoSystems, MEMS, and NEMS</td>
<td>12</td>
</tr>
<tr>
<td>Microwave Circuits</td>
<td>12</td>
</tr>
<tr>
<td>Mobile and Personal Communications Systems Engineering PG</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Communication Systems PG</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Technology PG</td>
<td>12</td>
</tr>
<tr>
<td>Power Electronic Converters</td>
<td>12</td>
</tr>
<tr>
<td>Professional Engineering Project</td>
<td>12</td>
</tr>
<tr>
<td>Professional Engineering Advanced Project</td>
<td>12</td>
</tr>
<tr>
<td>Project Management and Entrepreneurship (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods</td>
<td>12</td>
</tr>
<tr>
<td>Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Semiconductor Device Fabrication (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Semiconductor Physics and Materials</td>
<td>12</td>
</tr>
<tr>
<td>Sensors and Measurement Technologies</td>
<td>12</td>
</tr>
</tbody>
</table>
Industry Connections

Industry plays a vital role in the development, delivery and review of the program through membership of the School Program Advisory Committee (PAC). Other members of the PAC include alumni and academic staff. There are links with industry, particularly through laboratories that incorporate work-integrated learning, through research projects, consulting, and through industry-sponsored student design projects.

Notable industry links for this program are:

— Dyne Industries Pty Ltd
— Keysight Technologies Australia Pty Ltd
— Microchip Australia Pty Ltd
— Analog Devices Australia
— Futuris Automotive Interiors
— NEC Australia
— National Instruments
— SEW-Eurodrive
— IEEE (Institute Electrical and Electronics Engineering)

Career

In the private sector, graduates may work in the design, manufacture and supply of electronic products; in energy, systems and services as technical experts; as business managers, and executive officers.

In the public sector, electronic engineers work on essential services such as telecommunications, transportation, security, defence, health, emergency services and the environment.

Graduates may choose to establish their own business operating in the local and international electronic market.

Professional Recognition

Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways

You may be eligible for advanced standing based on your previous studies. Many graduates of the program go on to undertake further studies in research and development – often continuing to PhD programs.

Entry Requirements

— An Australian bachelor degree with a Grade Point Average (GPA) of at least 2.0 out of 4.0 in engineering (computer, electronic, telecommunications, electrical, communication or network), or equivalent; or
— An Australian bachelor degree with a GPA of at least 2.0 out of 4.0 in physics (electromagnetic theory), or equivalent; or
— An Australian bachelor degree in any discipline with a GPA of at least 2.0 out of 4.0 and at least five years work experience in the electronic engineering industry, or equivalent.
— Applicants applying on the basis of work experience are expected to have skills in analysis, design and management within the electronic engineering industry.

International qualifications are assessed for comparability to Australian qualifications according to the Australian Qualifications Framework (AQF).

MicroNano Research Facility (MNRF)

The MicroNano Research Facility (MNRF) brings together diverse and high-quality multidisciplinary micro- and nanotechnology research into a single hub.

RMIT has operated cleanroom fabrication and metrology facilities for over 30 years. The new MNRF has comprehensive facilities for the design, modelling, fabrication, packaging and characterisation of micro- and nano-scale devices. Nine laboratories are housed within the 1000-square-metre facility.
Master of Engineering

Environmental Engineering

Program Code
MC254

Campus
City campus
Some courses will be offered on the Bundoora campus

Duration
2 years full-time or 4 years part-time.
Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.*
Please refer to Fees Explained on page 50.
* Commonwealth supported places are available.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc254

The program is designed to provide specialist knowledge in the environmental engineering fields of design, infrastructure planning, water engineering, sustainability, project management and transport engineering.

The Master of Engineering (Environmental Engineering) will develop advanced knowledge and skills in environmental engineering to enhance your career prospects in relevant industries.

You will gain skills that will allow you to step up as a project leader, consultant or manager with the knowledge and skills to lead the introduction of new technologies and operating practices in environmental engineering.

You will gain extensive knowledge in environmental engineering and related technologies combined with advanced oral and written communication, team-work, design, project management and research skills. You will also enhance your professional skills in management and business enterprise.

You will develop specialist technical capabilities in:
— humanitarian engineering
— water resource systems optimisation
— water treatment engineering
— urban hydrology
— advanced technologies for wastewater reclamation infrastructure

Learning and Teaching
This program incorporates blended learning, which includes face-to-face teaching, e-learning delivery, and an intensive block mode.
You will also undertake comprehensive laboratory work and industry visits. Through the laboratory program you will use specialist equipment in environmental engineering for both testing and researching problems and solutions.
Through common core courses you will engage with the wider engineering community, enhancing your experience and enabling multidisciplinary learning.
You will have access to online resources through the myRMIT student portal.

Program Structure
The program consists of 192 credit points and will meet Australian Qualification Framework (AQF) level 9 Learning Outcome.
The program shares a common first and fourth semester with other masters of engineering programs and includes year one research component.

Year One
Complete the following four courses:
— Sustainable Engineering Practice and Design
— Innovation and Technology Management
— Risk and Project Management
— Modelling and Simulation of Engineering Systems; and
Select and complete four of the following courses:
— Humanitarian Engineering
— Urban Ecology
— Water Resource System Optimisation
— Water, Sanitation and Waste Management
— Urban Hydrology

Year Two
Select and complete three of the following courses:
— Advanced Technologies for Wastewater Reclamation
— Environmental Management – EIA and EMS
— Sustainability Body of Practice 1
— Ethics and Legal Studies; and
Complete the following course:
— Master’s Research Project; or
Complete the following two courses:
— Master’s Research Project Part 1
— Master’s Research Project Part 2

Part-Time Delivery
Part-time students should enrol in two courses per semester, beginning with core courses in the first year of study and then moving into the cognate specific courses in years two and three, followed by the research project in year four.
Industry Connections
The program includes exposure to a range of Australian and international companies through industry visits. Industry plays a vital role in the development, delivery and assessment of the program through the School Program Advisory Committee (PAC), which comprises experienced representatives, academic staff and alumni. The program also facilitates networking opportunities with fellow engineering masters students from a range of disciplines and industries.

Career
Environmental engineers work on projects including environmental impact studies, energy conservation, sustainability, pollution control and humanitarian engineering. Graduates of the Master of Engineering (Environmental Engineering) will be sought in Australia and overseas, mainly South-East Asia and East Asia. There is steady employment of environmental engineers in Australia in the water and hydrology sectors, construction, infrastructure and mining industries.

Professional Recognition
Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways
If you have completed a Bachelor of Engineering program in environmental engineering, at AQF level 8 or equivalent, where this program is accredited by Engineers Australia, you may be eligible to receive up to 96 credit points of advanced standing. At completion of the Masters of Engineering (Environmental Engineering) you will meet the eligibility criteria to apply for the PhD (Environmental Engineering).

Entry Requirements
— A bachelor degree in engineering, engineering science or engineering technology (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: civil, environmental, engineering systems or equivalent; or
— A Master of Engineering by coursework in one of the relevant disciplines listed above.
Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering

International Automotive Engineering

Program Code  Campus
MC230    City campus

Duration
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.*
Please refer to Fees Explained on page 50.
* Commonwealth supported places are available.

How to Apply
Apply directly to RMIT University at
Please refer to How to Apply on page 51.

Further Information
Dr Monir Takla
School of Aerospace, Mechanical and
Manufacturing Engineering
Tel. +61 3 9925 6094
Email: monir.takla@rmit.edu.au
www.rmit.edu.au/aeromecheng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc230

This program has been designed to meet the needs of the global automotive industry including original equipment manufacturers and their supply chains. You will graduate as part of a new breed of automotive engineering professionals involved in automotive engineering design, manufacturing and testing using contemporary engineering methods, and computational and experimental tools.

In this program you will use advanced computer-aided engineering software such as Catia and Abaqus. You will also gain hands-on experience in several state-of-the-art experimental facilities, including the full scale Vehicle Wind Tunnel, Green Engines Research Laboratory and Vehicle NVH Laboratory.

The program offers the flexibility for specialisation in advanced automotive design and development or automotive manufacturing. It aims to develop future technological leaders capable of managing innovation in design and manufacturing settings.

You will have the opportunity to do work experience in multinational companies, which will enhance your employment opportunities in the global job market. The program also provides exchange opportunities between RMIT and universities worldwide, including opportunities for dual masters awards. This will expose you to international experts from both industry and universities.

The program aims to enable you to develop a comprehensive understanding of the product life cycle and systems design of modern automobiles and associated technologies.

The program also focuses on new sustainable design and manufacturing practices based on the entire life cycle (from ‘cradle to grave’) of vehicles. This incorporates the design for disposal and recycle, disassembly, life-cycle assessment, alternative fuels and powertrains, and light structures.

Learning and Teaching
The integration of classroom learning and workplace experience provides students with the opportunity to apply their knowledge and problem-solving skills in a real workplace setting. The School of Aerospace, Mechanical and Manufacturing Engineering plays a major role in the Automotive Cooperative Research Centre (AutoCRC), whereby academic staff and full-time research staff are continuously upgrading your skills through close collaboration with industry.

You will also have access to visiting staff from overseas industry and universities highly qualified, who are well versed in current and future trends in the global automotive industry. In addition, you will complete a comprehensive work placement program that incorporates research experience at leading automotive companies worldwide.

Program Structure
The Master consists of 192 credit points. RMIT is committed to providing students with an education that strongly links formal learning with workplace experience.

During this program you will:
— undertake and be assessed on a structured activity that allows you to learn, apply and demonstrate your professional or vocational practice
— interact with industry and the community when undertaking this activity
— complete an activity in a work context or situation that may include teamwork with students from different disciplines

In this program, you will complete specific course(s) that focus on work-integrated learning (WIL). You will be assessed on professional or vocational work in a workplace setting (real or simulated) and receive feedback from those involved in industry with capital-intensive assets and engineering systems.

You will work with practitioners in the automotive industry environment, using complex software and equipment, analysing real automotive design and manufacturing case studies, and proposing and evaluating new automotive designs.

The capstone Master’s Research Project, which is undertaken in second year, involves WIL through an industry-relevant project.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of Automotive Design and Development</td>
<td>12</td>
</tr>
<tr>
<td>Management of Automotive Manufacturing Engineering Processes</td>
<td>12</td>
</tr>
<tr>
<td>Computational Engineering for Automobile Applications</td>
<td>12</td>
</tr>
<tr>
<td>Vehicle Noise Vibration Harshness</td>
<td>12</td>
</tr>
<tr>
<td>Automotive Materials</td>
<td>12</td>
</tr>
<tr>
<td>Automotive Systems and Control</td>
<td>12</td>
</tr>
<tr>
<td>Advanced CAE for Automotive Applications</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Vehicle Power-Train Technologies</td>
<td>12</td>
</tr>
<tr>
<td>Advanced Vehicle Dynamics</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Elective course</td>
<td>12</td>
</tr>
</tbody>
</table>
Industry Connections
The Master has been developed in consultation with a range of automotive industry and education stakeholders including the University of Ingolstadt, AutoCRC, Ford Australia, General Motors Holden, Pacifica, Futuris Automotive Interiors, and SAE Australasia.

Career
Graduates will be able to work effectively as automotive engineering specialists, leading technological innovation in cross-disciplinary teams. They will be able to work effectively within and between geographically and culturally diverse settings with a broad understanding of the complex automotive supply chain and logistics involved.

Specialised automotive engineers are currently in short supply, but are in increasingly high demand by the automotive industry worldwide.

Professional Recognition
This program does not yet have accreditation by Engineers Australia. Accreditation will be sought for this program as soon as it is feasible to do so within the accreditation timelines set by Engineers Australia.

Australia is one of 15 countries that are signatories to the International Engineering Alliance, also known as the Washington Accord, for professional engineers.

Global Connections
This program has dual master agreements with the University of Applied Sciences in Ingolstadt, Germany, and the University of Applied Science in Aachen, Germany. You can study two semesters at RMIT and two semesters at one of the host universities, and receive masters degrees from both institutions.

Students who elect to pursue the RMIT International Industry Experience and Research Program (RIIERP) will have the opportunity for a six-month industry placement with a major overseas automotive manufacturer or supplier such as Volkswagen, Audi, BMW, Bosch or Siemens.

Pathways
You may be eligible for advanced standing based on your previous studies.

Entry Requirements
— An Australian bachelor degree (Bachelor of Technology, Bachelor of Engineering Science or Bachelor of Engineering), or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive engineering, with a Grade Point Average (GPA) of at least 2.5 out of 4.0
— An Australian Master of Engineering or PhD, or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive engineering.

Applicants with a GPA less than 2.5 out of 4.0 may be considered on a case-by-case basis, with consideration given to at least two years of relevant work experience in industry.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile
“I studied a Bachelor of Engineering (Mechanical) at the Babaria Institute of Technology in Vadodara, India. After working in the industry for a few years, I realised the significance of postgraduate studies, where I could gain more knowledge and broaden my horizon.

“When looking at where to study, I did not want to compromise with the program or location. After going through the course structure, profile of lecturers and professors and the reputation, RMIT in Melbourne proved to be the best option for me.

“I’ve loved the courses I’ve studied because they are not only interesting but very informative as they provide in-depth understanding of the field. A highlight was getting to learn a few simulation software programs where we carry out modelling or a similar task. These have helped me relate with what I see in my daily routine and gives me that wonderful feeling of being capable of designing.”

Shreerang Ashok Agnihotri
Master of Engineering
(International Automotive Engineering)
Master of Science
International Sports Technology

Program Code  Campus
MC190  City campus

Duration
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.* Please refer to Fees Explained on page 50.
* Commonwealth supported places are available.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Professor Franz Konstantin Fuss
School of Aerospace, Mechanical and Manufacturing Engineering
Tel. +61 3 9925 6123
Email: franz.fuss@rmit.edu.au
www.rmit.edu.au/aeromecheng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc190

This postgraduate degree, the first of its kind in the southern hemisphere, provides you with the skills to undertake leading roles in the international sports industry and in sports organisations. You will gain an in-depth understanding of scientific and engineering disciplines related to the holistic context of modern sports technology, encompassing:
- performance enhancement with smart solutions
- design customisation
- injury prevention
- sustainable design and manufacturing

The engineering and scientific disciplines involve mechanical, materials, manufacturing, aerospace, electrical, chemical, biomedical and construction engineering, sports science, business, textile technology, media studies and mathematics.

The global sports industry is an expanding industry worth about US$800 billion. Steady growth of the sports equipment sector is 2.5 times faster than the growth of general consumer spending, and the global sports industry is growing faster than the overall GDP.

This program includes intensive laboratory work, from classroom-integrated projects to practical work in world-leading facilities such as RMIT’s large industrial wind tunnel. You will gain skills in problem-solving and innovative thinking along with extensive knowledge in developing sports products, and specialist skills in developing methods and tools for the improvement of training and performance assessment.

RMIT University has a two-decade history of developing award-winning sports products like the RMIT Superbike. Most recently, an RMIT collaboration with Kookaburra and Cricket Australia is developing a smart cricket ball that helps improve bowling skills and makes previously unmeasurable performance indicators assessable.

Learning and Teaching
You will learn from industry professionals from a wide range of technology and management sectors who will share their insights into the development of award-winning products, successful Olympic bidding processes, and the management and organisation of international sporting events.

You will also have access to high qualified visiting staff from overseas industry and universities who are well versed in current and future trends in the global sports industry.

Some of the leading positions staff have held in international sports technology and engineering organisations include:
- president of the International Sports Engineering Association (ISEA)
- members of the ISEA Executive Committee
- editors and editorial board members of international sports technology and engineering journals
- organisers of international sports technology and engineering conferences
- co-founders of the Australian Sports Technologies Network

Program Structure
The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points).

Semester 1
Provides the foundation courses for sports technology:
- Sports Analytics (including performance statistics, match analysis and forecasting)
- Sports Biomechanics (including muscle and joint mechanics and movement analysis)
- Sports Management (including managing international sports events, entrepreneurship and innovation, and sports business leadership)
- Sports Materials (extending to intelligent and nano-materials)

Semester 2
Covers the core courses of sports technology:
- Design and Mechanics of Sports Equipment (testing and optimising snowboards and wheelchairs)
- Design and Technology of Sports Shoes and Apparel (developing energy transfer shoes)
- Sports Aerodynamics and Hydrodynamics (wind-tunnel testing of sports balls and winter sport garments)
- Sports Measurements and Instrumentation (providing theory and hands-on experience in designing a smart cricket ball for training purposes)

Semester 3
Includes the Research Methods in Engineering course, which serves as the starting point of the masters thesis research project, as well as three of the following electives:
- Management of Technology
- Project Management
- International Engineering Management
- Advanced Manufacturing Technologies
- Product Lifecycle Design and Management
- Advanced CAE
- Sportswear and Performance Textiles
- Exertion Games

Alternatively, the entire third semester can be completed as a placement with an international sports company or organisation.

Semester 4
Devoted to the Masters Research Project and writing the thesis. This project can be carried out at RMIT or at a partner sports company or organisation.
The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Master</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Mechanics of Sports Equipment</td>
<td>12</td>
</tr>
<tr>
<td>Design and Technology of Sports Shoes and Apparel</td>
<td>12</td>
</tr>
<tr>
<td>Elective courses</td>
<td>36</td>
</tr>
<tr>
<td>Materials in Sports Equipment</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>12</td>
</tr>
<tr>
<td>Sports Analytics</td>
<td>12</td>
</tr>
<tr>
<td>Sports Aerodynamics and Hydrodynamics</td>
<td>12</td>
</tr>
<tr>
<td>Sports Biomechanics</td>
<td>12</td>
</tr>
<tr>
<td>Sports Management</td>
<td>12</td>
</tr>
<tr>
<td>Sports Measurements and Instrumentation</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
</tbody>
</table>

Industry Connections
Throughout the program, you will work on industry-based projects with leading sports equipment companies and sports organisations such as:
- Mizuno
- Asics
- Adidas
- Nike
- Kookaburra
- Burton
- Australian Institute of Sport
- Cricket Australia
- Tennis Australia
- AFL
- International Paralympic Committee
- RMIT University is committed to providing you with an education that strongly links formal learning with professional or vocational practice.

Career
Considering the size of the rapidly growing global sports market, graduates will be able to work as leading sports technology specialists in multi- and trans-disciplinary teams within the global sports industry in sports organisations. The flexible approach to sports technology will cater for specialisation in:
- sports industry: leading and senior positions in research and development departments, or in product development and management
- sports organisations: high-performance managers, head coaches or senior biomechanists (capable of innovative product and method design and development).

Professional Recognition
The International Sports Engineering Association (ISEA) is currently developing an international accreditation system for sports technology and engineering courses. Graduates of this program are likely to be accredited on graduation.

Global Connections
Throughout the program, you will be given options to work on projects with international and leading sports companies and organisations. Examples include:
- International Industry Experience 2: a one-semester placement within the sports industry or in a sports organisation through the RMIT international RIIERP [www.rmit.edu.au/riierp](http://www.rmit.edu.au/riierp)
- Master research project: a one-semester placement within the sports industry or in a sports organisation involved in research collaboration with RMIT
- Double master degree programs with two European universities: study two semesters at RMIT and two semesters at one European partner university (University of Applied Science in Vienna, Austria; German Sports University in Cologne, Germany), earning a masters degree from each university

Entry Requirements
A bachelor, masters or doctoral degree with a Grade Point Average (GPA) of at least 2.0 out of 4.0 in one of the following areas is mandatory:
- Engineering: BEng or MEng or PhD
- Medicine: MBBS, MD
- Science: BSc or MSc; or PhD in the areas of human movement, exercise and sport science, physical education, sport coaching, physiotherapy, disability, nursing, biology, mathematics, pure sciences, applied sciences

Relevant work experience in industry or sports organisations, or sports experience as an athlete or coach is also desirable but not compulsory.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile
“For as long as I can remember, I’ve been doing different kinds of sports. I was interested in the technology used in sports equipment and wanted to study in this area, so I turned my passion into my profession.

“While studying the Bachelor of Science Sports Equipment Technology at the University of Applied Science in Vienna, Austria, I gained a lot of basic knowledge in different areas of engineering, biomechanics and materials science.

“In 2014, the University of Applied Science, Vienna, offered a double masters program with the cooperation of RMIT. I was one of three lucky applicants who joined this program. This meant that I did the first year of this program in Vienna (Sport Equipment Technology) and my second year, the Master of Science (International Sports Technology), including my masters thesis as well as completing the program, at RMIT.

“There were three good reasons to join this program: the first was the double qualification within two years; the second was the good reputation of RMIT concerning their research in the area of sports equipment; and the third reason was Melbourne and Australia.

“So far, the highlight of my time at RMIT was the group projects. They are very different to the projects I did in Vienna, which is refreshing and exciting.

“After finishing my Masters degree, I hope to find a job in the sports technology or sports engineering fields.”

Bernd Fuernschuss
Master of Science (International Sports Technology)
Master of Engineering Management

Program Code: MC226
Campus: City campus

Duration
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places: $28,800 per year full-time.
* Commonwealth supported places are available.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct. Please refer to How to Apply on page 51.

Further Information
Dr Milan Simic
School of Aerospace, Mechanical and Manufacturing Engineering
Tel. +61 3 9925 6224
Email: milan.simic@rmit.edu.au
www.rmit.edu.au/aeromecheng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc226

This program prepares you for leadership roles in the management of engineering and technology-based organisations with a program tailored to individual needs. You will develop skills and expertise in a broad range of engineering management practices.

The program's major strengths come from:
- thinking strategically
- addressing problems from a new point of view
- challenging established practices and norms
- developing innovative approaches
- understanding how to manage an ever-changing technology base
- developing a systems approach to problem and/or opportunity definition

It will expose you to real-world issues in the areas of:
- risk and feasibility
- managing innovation
- developing systems thinking approaches
- quality management
- environmental management systems
- cleaner production
- strategic planning
- financial management
- performance management
- international issues
- technology management

Learning and Teaching
Your learning experiences will contain a broad mix of study modes, including lectures, presentation seminars, tutorials and written assignments. Active engagement in class discussions is strongly encouraged, along with small group-based activities.

Lectures and tutorials are typically delivered in the evenings throughout each semester with occasional weekend workshops.

RMIT is committed to providing you with an education that strongly links formal learning with workplace experience.

During this program you will:
- undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional or vocational practice
- interact with industry and the community when undertaking these activities
- complete these activities in real or simulated work contexts or situations

Program Structure
The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points). You can focus your studies in the following areas:
- technology management
- environmental management
- performance management
- risk management
- engineering economic strategy
- international engineering management
- project management
- quality management
- logistics management
- systems engineering

Specialisations from other areas within RMIT are also available.

In this program, you will do specific courses that focus on work-integrated learning (WIL). You will be assessed on professional or vocational work in a workplace setting (real or simulated) and receive feedback from those involved in our industry. The Master’s Research Project involves WIL through an industry-relevant project.
The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Quality Organisations</td>
<td>12</td>
</tr>
<tr>
<td>Elective courses</td>
<td>36</td>
</tr>
<tr>
<td>Engineering Economic Strategy</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Systems and Environment</td>
<td>12</td>
</tr>
<tr>
<td>Integrated Logistics Support Management</td>
<td>12</td>
</tr>
<tr>
<td>Management of Technology</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Project Management</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Risk Management and Feasibility</td>
<td>12</td>
</tr>
<tr>
<td>System Engineering Principles</td>
<td>12</td>
</tr>
</tbody>
</table>

**Industry Connections**

Industry plays a vital role in the development, delivery and assessment of the program through membership of the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.

**Career**

Graduates take on management responsibilities in engineering and technology-based enterprises and organisations.

**Professional Recognition**

Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

**Pathways**

You may be eligible for advanced standing based on industry experience or academic results in your previous studies.

**Entry Requirements**

— An Australian Bachelor of Technology, Bachelor of Engineering Science or Bachelor of Engineering, or equivalent, in any engineering discipline, or a Bachelor of Business, or equivalent, in any business discipline, with a Grade Point Average (GPA) of at least 2.0 out of 4.0. Applicants with a GPA less than 2.0 out of 4.0 may be considered on a case-by-case basis, with consideration given to at least two years of relevant work experience in engineering or business; or

— An Australian Master of Engineering, Master of Business or PhD, or equivalent, in any engineering or business discipline.

— Applicants applying on the basis of work experience are expected to have skills in analysis, design, and management of engineering projects within aerospace, mechanical, manufacturing, mechatronics, sustainable systems, and automotive industry or equivalent.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).

**Profile**

“I studied global management and manufacturing at Aarhus University in Denmark. I really wanted to go overseas and test myself for a future international career.

“The Master of Engineering (Management) seemed to be a good extension of my bachelor degree. It is very broad and opens up a lot of opportunities, but at the same time allows me to dig deeper into a specific area for my masters thesis.

“I’ve been part of many different activities such as volunteering at the RMIT University Student Union. I also volunteer in RMIT’s Engineers without Borders Chapter. This is a great opportunity to meet other students with the same interests and passions.

“I will spend my last semester in a manufacturing company where I am going to write my masters thesis while solving an actual problem for the company.”

Louise Schønnemann
Master of Engineering (Management)
Gain knowledge and skills to lead change, adopt new technologies and implement new operating practices in manufacturing businesses. Worldwide manufacturing companies are currently undergoing dramatic change. The combination of new technology, customer expectations and global competition is forcing new approaches to automation, factory design and manufacturing systems. Manufacturing companies already use computerised information systems, but there is a need to achieve true systems integration through the adoption of ‘whole enterprise’ modelling approaches. Production machines and processes are increasingly under computer/microprocessor control, and this requires more sophisticated approaches to maintenance management.

As the pace of change accelerates, it creates demand for trained professionals who can strategically apply new technologies and modes of manufacturing in industry.

Learning and Teaching
Learning and teaching activities are designed to develop the capabilities required by the contemporary manufacturing environment. The program includes courses in additive manufacturing to utilise the facilities available at the Advanced Manufacturing Precinct at the City campus and its focus on additive manufacturing technologies.

RMIT is committed to providing you with an education that strongly links formal learning with workplace experience. During the program you will:
- undertake and be assessed on structured activities that allow you to learn, apply and demonstrate your professional or vocational practice
- interact with industry and the community when undertaking these activities
- complete these activities in real or simulated work contexts or situations

Program Structure
The Master consists of 192 credit points.

In this program, you will complete specific courses that focus on work-integrated learning (WIL). You will be assessed on professional or vocational work in a workplace setting (real or simulated) and receive feedback from those involved in our industry. The Master’s Research Project involves WIL through an industry-relevant project.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Master</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Manufacturing Technologies</td>
<td>12</td>
</tr>
<tr>
<td>Advanced Mechatronics System Design</td>
<td>12</td>
</tr>
<tr>
<td>Advanced Robotics</td>
<td>12</td>
</tr>
<tr>
<td>Computer Integrated Manufacturing</td>
<td>12</td>
</tr>
<tr>
<td>Design for Manufacture</td>
<td>12</td>
</tr>
<tr>
<td>Intelligent Materials and Processes</td>
<td>12</td>
</tr>
<tr>
<td>Lean Manufacturing</td>
<td>12</td>
</tr>
<tr>
<td>Manufacturing Strategy and Planning</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Risk and Project Management</td>
<td>12</td>
</tr>
<tr>
<td>Sustainable Engineering Practice and Design</td>
<td>12</td>
</tr>
</tbody>
</table>

Industry Connections
Industry plays a vital role in the development, delivery and assessment of the program through membership of the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.

Career
The Master is aimed at professionals in supervisory or middle-management levels in the global manufacturing industry. Graduates from the program will develop the potential to take a leading role in management and technology development in their organisation.

At the completion of the program you will be equipped to pursue a senior position in manufacturing engineering, operations, or consultancy; for example, as:
- a team leader implementing new technology and operational strategies
- an operations manager responsible for the competitive performance of a manufacturing unit
- a consultant providing specialist technical advice to manufacturing industry

Professional Recognition
This program does not yet have accreditation by Engineers Australia. Accreditation will be sought for this program as soon as it is feasible to do so within the accreditation timelines set by Engineers Australia. Australia is one of 15 countries that are signatories to the International Engineering Alliance, also known as the Washington Accord, for professional engineers.

Pathways
You may be eligible for advanced standing based on your previous studies.

Entry Requirements
- An Australian bachelor degree (Bachelor of Technology, Bachelor of Engineering Science or Bachelor of Engineering), or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive engineering, with a Grade Point Average (GPA) at least 2.5 out of 4.0; or
- An Australian Master of Engineering or PhD, or equivalent, in the fields of aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive engineering.
- Applicants with a GPA less than 2.5 out of 4.0 may be considered on a case-by-case basis, with consideration given to at least two years of relevant work experience in industry.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering
Mechanical Engineering

The Master of Engineering (Mechanical Engineering) provides you with the skills to work as a designer, technical specialist, consultant or manager in a range of industries including manufacturing, mining, energy and infrastructure. You will develop the knowledge to lead the implementation of new technologies and operating practices and systems in process engineering, automotive, manufacturing and sustainable systems engineering, as well as project management, dynamics and control, wind and hydro power.

You will build high level technical knowledge and appropriate professional skills such as management, leadership and business enterprise.

Development in the energy, mining, automotive and manufacturing industries are driving the need for mechanical engineers with advanced skills in the latest technologies.

You will develop specialist knowledge in:
- advanced CAE
- advanced dynamics
- solid mechanics
- advanced heat transfer

With a focus on project-based and multi-disciplinary learning you will develop professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

Learning and Teaching
This program incorporates blended learning, which includes face-to-face teaching, intensive and e-learning delivery modes.
You will undertake a comprehensive program of supervised laboratory work and industry visits to relevant organisations. The laboratory program will allow you to use specialist equipment in mechanical engineering for both testing and researching problems and solutions.
Through common core courses you will engage with the wider engineering community, enhancing your cohort experience and enabling multidisciplinary learning.
You will have access to online resources through the myRMIT student portal.

Program Structure
The program consists of 192 credit points and will meet Australian Qualifications Framework (AQF) level 9 Learning Outcome.
The program shares a common first and fourth semester with other masters of engineering programs and includes a research component.

Year One
Complete the following four courses:
- Sustainable Engineering Practice and Design
- Innovation and Technology Management
- Risk and Project Management
- Modelling and Simulation of Engineering Systems; and

Year Two
Complete the following four courses:
- Advanced CAE
- Advanced Thermo Fluids
- Advanced Dynamics
- Advanced Mechanics of Solids

Select and complete one of the following courses:
- Sustainable Energy Systems and Design
- Advanced Manufacturing Technologies
- Advanced Heat Transfer; and

Complete the following one course:
- Master’s Research Project; or

Complete the following two courses:
- Master’s Research Project Part 1
- Master’s Research Project Part 2
Industry Connections
The program includes exposure to a range of Australian and international companies through industry visits and may include site visits. Industry plays a vital role in the development, delivery and assessment of the program through the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.

Notable industry links for this program include:
— Ford Australia
— Futuris Automotive Interior
— Intercontinental

The program also facilitates networking opportunities with fellow engineering masters students from a range of disciplines and industries.

Students have access to the Engineering Learning Factory, which is located in RMIT’s Advanced Manufacturing Precinct. This facility is a learning centre for students and industry that uses a production approach, where all learning is project-based, industry-relevant, and where new concepts of manufacturing and design are established and trialed concurrently.

Career
Graduates will find employment in mechanical engineering fields including construction, energy, infrastructure, mining, building services and food processing.

Employers seek mechanical engineers across all areas from mechanical systems design, advanced manufacturing, mechatronics and micro- and nanotechnology.

Professional Recognition
Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways
Students who have completed a Bachelor of Engineering program in a cognate area, at AQF level 8 or equivalent, may be eligible to receive up to 96 credit points of advanced standing.

At completion of this program, you will meet the eligibility criteria to apply for the PhD (Mechanical and Manufacturing Engineering).

Entry Requirements
— A bachelor degree in engineering, engineering science, or engineering technology, (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: mechanical, manufacturing, mechatronics, sustainable systems, aerospace, automotive or equivalent; or
— A Master of Engineering by coursework in one of the relevant disciplines listed above.

Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration. International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering

Micro-Nano Engineering

Program Code: MC206
Campus: City campus

Duration:
2 years full-time or 4 years part-time.

2016 Tuition Fee:
- Full-Fee Places: $28,800 per year full-time.
- Please refer to Fees Explained on page 50.

How to Apply:
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Exit Points:
- Graduate Diploma in Engineering
  (Micro-Nano Engineering)

Further Information:
School of Electrical and Computer Engineering
Tel. +61 3 9925 2090
Email: eleceng@rmit.edu.au
URL: www.rmit.edu.au/eleceng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260
URL: www.rmit.edu.au/programs/mc206

The program will provide you with knowledge of micro-nano engineering, from fundamentals all the way to applications by providing design, simulation, and hands-on micro-nano fabrication experiences. You can specialise in one of two areas:

- Micro-nano electronics (design and basic fabrication)
- Micro-nano systems (fundamentals and specialised fabrication)

A highlight of studying this program at RMIT includes access to state-of-the-art technology. You’ll have access to the Micro Nano Research Facility (MNRF), which opened in September 2014. The MNRF has comprehensive facilities for the design, fabrication, packaging, and characterisation of micro and nano scale devices.

There is also a strong focus on research through a major project. The University has demonstrated strengths in research in the micro-nano engineering fields, with the University being rated as above world standard (Excellence in Research for Australia 2012).

Learning and Teaching:
Classes are taught by experts in their fields. There is a strong emphasis on laboratory work and professional engineering projects to put theory into practice and to enhance research, teamwork, leadership, communication and project management skills.

Class contact is generally in the afternoon and evening to fit in with work commitments of part-time students.

Program Structure:

Year One:
You will undertake three core courses which include laboratory work that places you in an industry design situation. You will undertake microfabrication in the MicroNano Teaching Facility (MNTF) cleanrooms. Your studies will involve the use of commercial design tools for design and simulation of micronano devices. This simulates industry practices where engineers are required to simulate device designs and use foundaries to fabricate their chip designs. The focus of the core courses gives you training on how design and fabrication is undertaken in industry.

In addition you will be able to choose between a specialisation in micro-nano electronics (design and basic fabrication) or micro-nano systems (fundamentals and specialised fabrication).

Year Two:
In second year you will undertake two core courses. This includes a highlight of the program which is a major project. This requires you to produce an individual research project or outcome which may be part of a larger project. You will work under the guidance of a professional engineer who may be from industry or be an academic or research staff member attached to the Micro Nano Research Facility (MNRF). These projects are typically in the areas of silicon photonics, microfluidics, micro/nanofabrication, nanoelectronics, flexible electronics, and electronic circuit design. The work for this project will be carried out in the state-of-the-art MNRF.

In addition, you will continue with your chosen specialisation.

Industry Connections:
This program has been developed in consultation with a Program Advisory Board, which comprises representatives from industry partners.

Career:
The program will prepare you for a career in the design of devices or systems employing Micro-Nano Engineering fabrication techniques and also for careers in the development or management of fabrication facilities in either a research or manufacturing context. Potential areas of employment are in the semiconductor industry or in the rapidly emerging area of biomedical device engineering.

Pathways:
The program provides a pathway for engineers and scientists, or those with an alternative acceptable qualification and relevant experience in industry, to gain a postgraduate qualification specialising in micro-nano engineering.
As this is an emerging and highly specialised area, standard exemptions for a bachelor degree in the same discipline are not available. Exemptions from some courses may be available if you have completed a bachelor degree specialising in electrical engineering, these will be assessed on a case-by-case basis.

Opportunities also exist if you decide not to pursue the full Masters qualification. After completing 96 credit points you may choose to exit with the Graduate Diploma.

Opportunities also exist for graduates of this Master’s program to utilise the specialised knowledge gained and undertake a PhD (Electrical and Electronic Engineering).

Entry Requirements:
- An Australian bachelor degree with a minimum Grade Point Average (GPA) of 2.5 out of 4.0 in engineering (computer, electronic, telecommunications, electrical, communication, network) or equivalent.
- Applicants with a GPA between 2.0 and 2.5 and with two years’ relevant work experience would also be eligible for entry into the program.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering

Process Engineering

The program is designed to provide specialist technical knowledge in the design, manufacture, commissioning and development of processing systems within the food, fuels, minerals, chemical and recycling industries.

The Master of Engineering (Process Engineering) will deepen your knowledge of the processing industries such as food, refinery, recycling, chemical, plastics, pharmaceutical, minerals and industrial materials.

You will gain extensive state-of-the-art knowledge and skills in process engineering, combined with advanced oral and written communication, teamwork, design, project management and research skills.

You will also enhance your professional skills and knowledge in leadership, management and business enterprise, and run on lead the introduction of new technologies and operating practices in process manufacturing.

You will develop specialist skills in:
- Advanced process control
- Advanced life-cycle analysis
- Process life-cycle analysis
- Computational modelling of processing systems

With a focus on project-based and multi-disciplinary learning, you will develop professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

Learning and Teaching
This program incorporates blended learning, which includes face-to-face teaching, intensive and e-learning delivery modes.

In addition, students will undertake a comprehensive program of supervised laboratory work and industry visits to process engineering sites. The laboratory program will allow students to use specialist equipment in process engineering for both testing and researching industry-relevant problems and solutions.

Through common core courses you will engage with the wider engineering community, enhancing your experience and enabling cross-disciplinary learning.

You will have access to online resources through the myRMIT student portal.

Program Structure
The program consists of 192 credit points and will meet Australian Qualifications Framework (AQF) level 9 Learning Outcome.

The program shares a common first and fourth semester with other masters of engineering programs and includes a research component.

Year One
Complete the following four courses:
- Sustainable Engineering Practice and Design
- Innovation and Technology Management
- Risk and Project Management
- Modelling and Simulation of Engineering Systems; and

Complete the following two courses:
- Advanced Process Control
- Advanced Process Integration; and

Select and complete two of the following courses:
- Maintenance and Reliability
- Industrial Systems and Environment
- Advanced Food Processing Technologies
- Rheology and Food Biophysics
- Food Safety Plans
- Food Process Engineering
- Industrial Microbiology
- Quality Management

Year Two
Select and complete three of the following courses:
- Advanced Process Engineering Specialisation
- Computational Modelling for Process Systems
- Research Methods in Engineering; and

Select and complete one of the following courses:
- Maintenance and Reliability
- Industrial Systems and Environment
- Advanced Food Processing Technologies
- Rheology and Food Biophysics
- Food Safety Plans
- Food Process Engineering
- Industrial Microbiology
- Quality Management; and

Complete the following course:
- Master’s Research Project; or

Complete the following two courses:
- Master’s Research Project Part 1
- Master’s Research Project Part 2
Industry Connections
The program includes exposure to a range of Australian and international companies through industry visits. Industry plays a vital role in the development, delivery and assessment of the program with input from the School Program Advisory Committee (PAC), which comprises experienced representatives, as well as academic staff and alumni.

The program also facilitates networking opportunities with fellow engineering masters students from a range of disciplines and industries.

Career
Graduates will find employment in industries including food, refinery, recycling, chemical, pharmaceutical, minerals and industrial materials.

Professional Recognition
Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways
If you have completed a Bachelor of Engineering program in chemical engineering or process engineering, at AQF level 8 or equivalent, where this program is accredited by Engineers Australia, you may be eligible to receive up to 96 credit points of advanced standing.

On completion of the Master of Engineering (Process Engineering) you will meet the eligibility criteria to apply for the PhD (Chemical Engineering).

Entry Requirements
— A bachelor degree in engineering, engineering science, or engineering technology, (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: chemical engineering, process technology or equivalent; or
— A Master of Engineering by coursework in one of the relevant disciplines listed above.

Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering

Robotics and Mechatronics Engineering

Program Code
MC256

Campus
City campus
Some courses will be offered on the Bundoora campus

Duration
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.
Please refer to Fees Explained on page 50.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc256

The Master of Engineering (Robotics and Mechatronics Engineering) will deliver graduates advanced knowledge and skills in robotics and mechatronics, engineering design and control systems. You will develop the skills to lead the introduction of new technologies and operating practices in advanced manufacturing and a range of other technical industries including mechanical systems design, mechatronics, and micro- and nanotechnology.

There is demand for engineers with advanced skills such as computer-aided design and the ability to develop and implement new processes in lean manufacturing to ensure efficient innovations can emanate from all levels of the workforce.

You will study high-demand areas including:
- advanced mechatronics system design
- advanced process control
- visual data processing and applications
- advanced robotic systems

With a focus on project-based and multi-disciplinary learning, you will develop professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

Learning and Teaching
This program incorporates blended learning which includes face-to-face teaching intensive and e-learning delivery modes. Students will undertake a comprehensive program of supervised laboratory work and industry visits to relevant organisations. The laboratory program will allow students to use specialist equipment in robotics and mechatronics for both testing and researching industry-relevant problems and solutions.

Through common courses you will engage with the wider engineering community, enhancing your study experience and enabling multidisciplinary learning.

You will have access to online resources through the myRMIT student portal.

Program Structure
The program consists of 192 credit points and will meet Australian Qualification Framework (AQF) level 9 Learning Outcome. The program shares a common first and fourth semester with other masters of engineering programs and includes a research component.

Year One

Complete the following eight courses:
- Sustainable Engineering Practice and Design
- Innovation and Technology Management
- Risk and Project Management
- Modelling and Simulation of Engineering Systems
- Advanced Process Control
- Advanced Mechatronics System Design
- Advanced Control Systems
- Visual Data Processing Applications

Year Two

Complete the following three courses:
- Advanced Robotic Systems
- Real Time Estimation and Control
- Research Methods in Engineering; and

Select and complete one of the following courses:
- Real Time Systems Design
- Digital Signal Processing
- Circuit and System Simulation (PG); and

Complete the following course:
- Master’s Research Project; or

Complete the following two courses:
- Master’s Research Project Part 1
- Master’s Research Project Part 2

Part-Time Delivery
Part-time students should enrol in two courses per semester, beginning with core courses in the first year of study and then moving into the relevant specific courses in year two and three followed by the research project in year four.
Industry Connections
The program includes exposure to a range of Australian and international companies through industry visits and may include site visits. Industry plays a vital role in the development, delivery and assessment of the program through the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.
Notable industry links for this program include:
— ANCA
— CNC Machine Tools
— Techni Waterjet
— Bosch
— Siemens
— The Walter and Eliza Hall of Medical Research
The program also facilitates networking opportunities with fellow engineering masters students from a range of disciplines and industries. Students have access to the Engineering Learning Factory, which is located in RMIT’s Advanced Manufacturing Precinct. The learning factory is for students and industry and uses a production approach, where all learning is project-based, industry-relevant, and where new concepts of manufacturing and design are established and trialed concurrently.

Career
You can work in mechanical systems design, advanced manufacturing, mechatronics, and micro- and nanotechnology. Graduates will be sought both in Australia and overseas. While there has been some decline in traditional manufacturing in Australia, there is steady employment in engineering in the construction, infrastructure, mining and building services. The food industry sector and automated production are seen as growth areas for the employment of robotics and mechatronics engineers. The demand for engineers with expertise in advanced manufacturing technologies is at the cusp of exponential growth.

Professional Recognition
Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways
If you have completed a Bachelor of Engineering program in robotics or mechatronics engineering, at AQF level 8 or equivalent, you may be eligible to receive up to 96 credit points of advanced standing into the program.

On completion of the Masters of Engineering (Robotics and Mechatronics Engineering) you will meet the eligibility criteria to apply for the PhD (Mechanical and Manufacturing Engineering).

Entry Requirements
— A bachelor degree in engineering, engineering science, or engineering technology, (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: mechatronics, mechanical, electrical and electronic, manufacturing, sustainable systems, automotive and aerospace, or equivalent; or
— A Master of Engineering by coursework in one of the relevant disciplines listed above.

Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
Master of Engineering

Structures and Forensics

Program Code  Campus
MC207       City campus

Duration
1 year full-time or 2 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.*
Please refer to Fees Explained on page 50.
* Commonwealth supported places are available.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.
Please refer to How to Apply on page 51.

Further Information
Dr Saman De Silva
School of Civil, Environmental and Chemical Engineering
Tel. +61 3 9925 3235
Email: saman.desilva@rmit.edu.au
www.rmit.edu.au/civilenvirochemeng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc207

This program explores ways of dealing with complex structural engineering challenges. It is specially designed to up skill your existing structural engineering capabilities by specialising in emerging advanced methods of structural materials and design practices. You will also acquire expertise in structural forensics and methods of extending the life expectancy of existing structures.

Over the past 50 years, structural engineering has focused on creating new landmark structures including bridges, buildings, dams, seaports and tunnels. However, during the past decade, a need has emerged to manage existing infrastructure, predict and extend the life expectancy of structures, and minimise its risk of failure and associated catastrophes.

This program addresses this gap in knowledge and will open up new career opportunities to you, as well as provide professional development and career stability by specialising your structural engineering qualification.

Learning and Teaching
This program blends lectures and workshop sessions, online forums and team-based activities. Lectures and tutorials are typically delivered in the evening.

Program Structure
You will collaborate on practical projects and research-based learning in areas of urban, commercial and civil infrastructure, specialising in:
— design of future urban infrastructure
— practice of advanced structural assessment, refurbishment and retrofitting existing structures
— structural failures, forensic engineering and lessons learned
— dynamic response of structures and post-elastic performance under extreme loading environments
— systems engineering for structural engineers and asset managers to analyse complex systems
— ethics, liability and law

By doing so, you will extend your views of the role of future structural engineers in designing, maintaining and assessing resilient and sustainable urban infrastructure.

You will conduct an industry-relevant and industry-supported research project to produce the final thesis, specialising in one of the above areas of your choice.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Structural Assessment</td>
<td>12</td>
</tr>
<tr>
<td>Design of Tall Buildings and Urban Habitat</td>
<td>12</td>
</tr>
<tr>
<td>Ethics and Legal Studies</td>
<td>12</td>
</tr>
<tr>
<td>Forensic Engineering (Structural)</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods</td>
<td>12</td>
</tr>
<tr>
<td>Research Project</td>
<td>24</td>
</tr>
<tr>
<td>Structural Refurbishment and Retrofitting</td>
<td>12</td>
</tr>
<tr>
<td>Systems Engineering for Civil Engineers</td>
<td>12</td>
</tr>
<tr>
<td>Vibration and Dynamic Response of Structures</td>
<td>12</td>
</tr>
</tbody>
</table>

Industry Connections
RMIT University is committed to providing you with an education that strongly links formal learning with professional and vocational practice. You will do a structured activity of work-integrated learning, including a final research thesis based on industry-relevant research.

Career
After completing this specialist Master program you will be highly sought after by structural engineering consultants, local councils, road authorities, civil infrastructure design consultants, asset managers, engineering consultants and assets managers in the mining industry.

Professional Recognition
Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways
Upon successful completion of this program you may be eligible to undertake further studies in related programs at RMIT, including a PhD in engineering by research, subject to each program’s entry requirements.

Entry Requirements
— An Engineers Australia accredited four-year Bachelor of Engineering degree in civil engineering, that satisfies Engineers Australia’s Stage 1 competency standards with a Grade Point Average (GPA) of at least 2.0 out of 4.0, or equivalent; or
— An Engineers Australia accredited four-year Bachelor of Engineering degree in civil engineering or equivalent, that satisfies Engineers Australia’s Stage 1 competency standards, and a minimum of one year of relevant industry experience, or equivalent. The grade and discipline will be considered on a case-by-case basis; or
— A four-year international Bachelor of Engineering degree in civil engineering, or equivalent, recognised by the Washington Accord, where qualifications are considered equivalent to Australian engineering programs fully accredited by Engineers Australia, with a GPA of at least 2.0 out of 4.0; or
— A four-year Bachelor of Engineering degree that satisfies the above condition, but where the title does not specify the specialisation is in civil engineering, however, relevant structural engineering prerequisites have been completed in bachelor degree studies. Such applicants will be considered on a case-by-case basis.
In high school I really enjoyed mathematics which was one reason I decided to study a bachelor degree in civil engineering. I had heard from numerous sources that RMIT’s engineering programs were hands-on and had lots of project experience. I learn through doing, so RMIT’s approach suited me perfectly. The location is also convenient.

I really enjoyed the structural engineering subjects that I had completed in my undergraduate degree at RMIT and that motivated me to want to learn more, see more and do more in that field.

In final year of my bachelor degree studies, I heard about the postgraduate program focusing on structures and forensics. So after graduating, I decided to study the masters program as it provided the opportunity to be exposed to more complex structural engineering problems.

There were so many highlights in my postgraduate studies, including getting to design a 100-storey building, learning about forensic analysis of existing structures, getting to complete a research project using a range software packages, learning about earthquake engineering and learning the mathematics behind structural engineering analysis packages.

I am now working in a graduate role at an engineering consulting firm. In the future I hope to become a successful senior structural engineer.

Felicity Stewart
Master of Engineering
(Structures and Forensics)
Master of Engineering
Sustainable Energy

Lead the future of sustainable energy. You will learn technologies and practices to improve energy efficiency, use renewable resources and reduce the environmental and social impacts of conventional energy technologies and resources.

Managing the transition towards a more sustainable energy sector is a priority for governments, the private sector and the general community. As a result, the demand for engineers and scientists with a postgraduate qualification in sustainable energy is growing rapidly.

This program provides a pathway for engineers and scientists, and those with an alternative acceptable qualification and significant industry experience.

Learning and Teaching
The learning and teaching approach used in this program is designed to assist you in developing skills as an independent and lifelong learner. The major styles of teaching and learning you will experience throughout your program will include, but are not limited to, the following:

— classroom teaching and/or online Blackboard Collaborate sessions that include class presentations, group discussion and student-led discussion
— laboratory activities
— problem-based learning
— site visits
— real and simulated work-integrated learning (WIL) activities through assignments and projects
— training provided by industry experts that help students gain hands-on experience in their fields of interest

Program Structure
The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points). In this program you will work on practical projects in real or simulated work environments. You will then be assessed by, and receive feedback from, highly experienced academics and/or those involved in relevant industries.

The Master’s Research Project course incorporates WIL that may involve a private or public company, or a governmental organisations. You are also given the opportunity of doing minor research projects and case studies for selected courses within the program. The program can be tailored to meet individual needs – case-study topics in a range of courses can be selected to suit your personal interests, as can the research project.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass and Solar Fuels</td>
<td>12</td>
</tr>
<tr>
<td>Energy Efficiency and Demand Management</td>
<td>12</td>
</tr>
<tr>
<td>Research Methods in Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Photovoltaic Systems</td>
<td>12</td>
</tr>
<tr>
<td>Sustainable Energy Fundamentals</td>
<td>12</td>
</tr>
<tr>
<td>Sustainable Energy Systems and Design</td>
<td>12</td>
</tr>
<tr>
<td>Electrical Energy Storage Systems</td>
<td>12</td>
</tr>
<tr>
<td>Sustainable Thermal Systems</td>
<td>12</td>
</tr>
<tr>
<td>The Economic, Social and Environmental Context for Sustainable Energy</td>
<td>12</td>
</tr>
<tr>
<td>Wind and Hydro Power</td>
<td>12</td>
</tr>
</tbody>
</table>

Industry Connections
Industry plays a vital role in the development, delivery and assessment of the program through membership of the School Program Advisory Committee (PAC), which comprises industry representatives, academic staff and alumni.
Career
Graduates are employed in local and international industries. They work on sustainable energy projects as energy managers, project managers and consultants.
Within their organisations, they take on lead roles in:
— developing and implementing plans to improve energy efficiency and productivity to cut fuel bills and reduce greenhouse gas and other pollution emissions in order to meet regulatory and other requirements
— researching, developing, demonstrating, commercialising, designing and evaluating innovative solar, wind and hydro, biomass, hydrogen and other sustainable energy supply, storage and utilisation technologies
— devising innovative sustainable solutions to current problems associated with adverse environmental and social impacts linked to energy supply, distribution and consumption
— maintaining and optimising the performance of installed sustainable energy technologies and systems
— managing consultative processes with social groups affected by energy-related projects and developments

Professional Recognition
Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways
You may be eligible for advanced standing based on your previous studies.

Entry Requirements
— An Australian bachelor degree or equivalent with a Grade Point Average (GPA) of at least 2.0 out of 4.0 in engineering or science with exposure to physics and/or chemistry of energy. Examples of relevant disciplines include mechanical, aerospace, manufacturing, automotive, chemical, civil, environmental, electrical and power, or electronics engineering, or science in physics or chemistry, or
— An Australian bachelor degree in any discipline with a GPA of at least 2.0 out of 4.0 and relevant work experience in the field of sustainable energy.
International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile
“I have always had an interest in sustainability as I have a desire to leave the world a better place. “

“I chose to study at RMIT because it was a local course that was flexible and tailored to what I wanted to do. The highlight of my studies has been the genuine, engaging and provocative discussions that I have had with staff and fellow students.

“During my studies I’ve gained technical knowledge of engineering and sustainable energy and government policy. I’ve also taken part in two projects with organisations outside of the university – both projects seeking to convert organic waste to energy. They were excellent examples of the practical application of theoretical skills.

“I currently work for Honeywell as Project Director for the Sustainable Urban Precincts Program at RMIT. “

“I love what I do because I’m helping move things in the right direction. In the future I hope to remain in the sustainability sector, ideally in renewable energy or waste recovery.”

James Tetlow
Master of Engineering (Sustainable Energy)
Master of Sustainable Practice

This program unites like-minded people to explore complex sustainability issues. You will collaborate on projects tackling problems in areas of water usage, energy, food, liveable cities, waste management, climate management or risk management. You will extend your views of sustainability and sustainable practice by:

- exploring your views of sustainability and how it affects your employer and the project, and encouraging yourself into action around change
- developing sustainable practice as a process of continual change based on reflective practice
- recognising the Long Now – that this precise moment grows out of the past and is a seed for the future
- recognising that we can create realities by first imagining them
- recognising that being here includes more than work and home – that the Big Here could be the wider local community, Australia and the world

(Ideas developed from Brian Eno’s “The Big Here and Long Now”).

You will develop capabilities to achieve sustainable practice by:

- communicating coherently across disciplines and with the broader community
- identifying and defining sustainability problems by researching and developing proposals
- leading, managing and participating effectively in change processes
- evaluating activities undertaken for efficiency
- being aware of self, others and the processes used

Learning and Teaching

Classes are held in intensive mode – normally three or four full days per semester (mostly Saturdays). Elective courses may be run in the evening. You are also supported via online resources and discussion forums between classes.

Program Structure

The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points). The program intersperses sustainability project courses with sustainability body of practice courses. The sustainability project courses are in the form of a workshop series that supports you through structured inquiry, providing the opportunity to share your learning with other participants.

The sustainability body of practice courses explore a range of different practices from various disciplines that can be used to move through the problem-solving/managing cycle. These courses are built around case studies and are also delivered in intensive mode. You may also select electives from an extensive range across RMIT – from renewable energy technology through to environment and planning courses.

An exegesis and critical interpretation of the project and program is required for the Master of Sustainable Practice.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Body of Practice 1</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Body of Practice 2</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Body of Practice 3</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Exegesis</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Project 1</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Project 2</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Project 3</td>
<td>12</td>
</tr>
<tr>
<td>Sustainability Project 4</td>
<td>12</td>
</tr>
</tbody>
</table>

Industry Connections

This program receives input from many industry sectors, including EPA Victoria and Sustainability Victoria, depending on which topic is being covered.

Career

Graduates will be able to lead change in sustainability issues within an organisation, as they will have an expanded view of sustainability and how this can be practised through projects, case studies and critical evaluation.

Professional Recognition

Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways

You may be eligible for advanced standing based on your previous studies.

Entry Requirements

- An Australian bachelor degree in any discipline;
- Evidence of experience that demonstrates you have developed a knowledge of the field of study sufficient to undertake the program.

International qualifications are assessed according to the Australian Qualifications Framework (AQF).
After completing a Graduate Diploma in Environmental Management I was keen to cement this learning at a more advanced level. I wanted to find a program that would assist me in transitioning across to the sustainability/environmental management sector. After a trusted advisor recommended the Master of Sustainable Practice, I applied to RMIT.

The highlight of my studies at RMIT has been the freedom to take my research in the direction and depth that I want. I am rapidly gaining an expertise in the area of commercial and industrial food waste that is being recognised by external stakeholders.

Dianne McGrath
Master of Sustainable Practice
Master of Engineering
Systems Support Engineering

Program Code  Campus
MC228        City campus

Duration
2 years full-time or 4 years part-time.
Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.
Please refer to Fees Explained on page 50.

How to Apply
Apply directly to RMIT University at
Please refer to How to Apply on page 51.

Further Information
Professor John Mo
School of Aerospace, Mechanical and
Manufacturing Engineering
Tel. +61 3 9925 6279
Email: john.mo@rmit.edu.au
www.rmit.edu.au/aeromecheng
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc228

During this program you will be trained to take
up roles as an industry leader in the design,
operation and improvement of supporting
operations, maintenance, supplies and other
services for complex engineering assets.

This program is designed to meet the needs of
the emerging profession of systems support
engineering.

Organisations with major assets are developing
key positions in this area as they move from
traditional maintenance-based approaches to
sophisticated, performance-based and
cost-effective alternatives.

Professionals in these new roles require
extensive knowledge and skills in:
— systems and service design
— evaluating performance-based contracting
— supply logistics development
— system capability enhancement
— asset management
— maintenance, technology insertion and
  upgrades

Learning and Teaching
The program is designed so that you will experience:
— an industry-led learning environment that draws
  heavily on case studies from industry partners
— a collaborative approach involving academic
  educators, researchers as well as industry
  experts
— an active learning environment where you will
  develop your own case study directly related
  to the issues you are facing in your workplace
— a holistic approach where you will be introduced
  to the major elements in the design of support
  systems for complicated equipment

The program is offered in flexible delivery mode to
accommodate full-time postgraduate students as
well as busy professionals. In addition to
face-to-face sessions during semesters, students
who are unable to attend in class can attend
online through RMIT’s Blackboard Collaborate
facility. The sessions are recorded for after-session
viewing as well. The online facility can also be
arranged for student groups to work collaboratively
on their assignments.

Program Structure
In this program, you will do specific courses that
focus on work-integrated learning (WIL). You will
be assessed on professional or vocational work in
a workplace setting (real or simulated) and receive
feedback from those involved in industry with
capital-intensive assets and engineering systems.

You will also work with practitioners in capital-
intensive industry and complex equipment
analysing real industry case studies, and proposing
and evaluating new support system designs.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Environment</td>
<td>12</td>
</tr>
<tr>
<td>System Engineering Principles</td>
<td>12</td>
</tr>
<tr>
<td>Logistics Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Project Management</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Endurance Systems</td>
<td>12</td>
</tr>
<tr>
<td>International Engineering Management</td>
<td>12</td>
</tr>
<tr>
<td>Maintenance and Logistics Services</td>
<td>12</td>
</tr>
<tr>
<td>Risk Management and Feasibility</td>
<td>12</td>
</tr>
<tr>
<td>Service and Support Operations</td>
<td>12</td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>12</td>
</tr>
<tr>
<td>Support Solution Architecture</td>
<td>12</td>
</tr>
<tr>
<td>System Simulation Characterisation</td>
<td>12</td>
</tr>
<tr>
<td>Master’s Research Project</td>
<td>48</td>
</tr>
</tbody>
</table>
Industry Connections
This Master degree has strong industry support from BAE Systems Australia, Saab Systems and ASC. Industry input provides valuable case studies and assists with the development of course material. Government funding supported the development of the degree, enabling world-renowned professors from the University of Cambridge to develop two courses.

Career
As a graduate of this program, you will offer highly valued skills and expertise to operators of complex infrastructure and assets in industries such as:
- defence
- energy
- health equipment services
- logistics
- manufacturing
- mining
- ports and maritime
- transport

Professional Recognition
The Master of Engineering (Systems Support Engineering) qualification can contribute to the grade of Engineering Executive (EngExec), a leadership recognition by Engineers Australia. Graduates will meet the requirements for Australian Qualifications Framework (AQF) level 9.

Pathways
You may be eligible for advanced standing based on your previous studies.

Entry Requirements
- An Australian bachelor degree with a Grade Point Average (GPA) of at least 2.0 out of 4.0 in aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive engineering, or equivalent; or
- An Australian bachelor degree in any discipline with a GPA of at least 2.0 out of 4.0 and at least five years work experience in the aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive industry, or equivalent.
- Applicants applying on the basis of work experience are expected to have skills in analysis, design, and management of engineering projects within the aerospace, mechanical, manufacturing, mechatronics, sustainable systems or automotive industries.
- International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile
“After undertaking a double degree in aeronautical engineering and commerce at the University of Sydney, I worked in the Australian defence industry for a few years. To me it was clear that the industry is in a transition period. Australian industries are moving away from traditional systems integration to purchasing off-the-shelf products that require engineers to architect system support solutions. I was motivated to undertake further studies because I wanted to be ready for this evolution.

"RMIT is well renowned for its engineering programs. The University’s involvement with industries, in particular Australian defence, is what attracted me to RMIT.

"Studying part-time, I currently work full-time at BAE Systems Australia as an Enterprise Systems Engineer. Working and learning at the same time has really enhanced my learning experience as I can apply what I learn in class to my work and also apply what I know from work to my university learning. I feel more engaged as a student as I experience first-hand, theory to practice.

"I really want to pick an honours thesis topic that will be meaningful, have an impact on and be relevant to my industry. I know that this Master degree will make me a well-rounded engineer ideal for a leadership role in a sustainment organisation supporting major Australian assets.

"I love what I do because I feel that as an engineer I create true value, and that by working in defence industries I’m also making a real difference by helping those who protect us.”

Sindhu Shankar
Master of Engineering
(Systems Support Engineering)
Master of Engineering

Telecommunication and Network Engineering

Rapid developments in global telecommunication and network technologies present exciting career opportunities for graduates of this program. This program enables you to:

— develop expertise in the analysis, design, implementation and operation of telecommunication devices, systems, networks and services
— enhance your professional skills in research, problem-solving, communication, teamwork and leadership
— advance your career in the telecommunication and network industries

Learning and Teaching

Classes are taught by experts in their fields. There is a strong emphasis on laboratory work and professional engineering projects to put theory into practice and enhance research, teamwork, leadership, communication and project management skills.

Program Structure

The Master consists of 192 credit points. This incorporates the Graduate Diploma (96 credit points). The program strongly links formal learning with professional practice. In this program you will:

— undertake structured activities that enable you to learn, apply and demonstrate your professional skills
— carry out these activities in real-work contexts or situations

These activities and their work context provide a distinctive source of feedback to you to assist your learning.

Any or all of these aspects of a work-integrated learning (WIL) experience may be simulated.

The following is an example of courses offered:

<table>
<thead>
<tr>
<th>Master</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antennas for Mobile and Satellite Communications PG</td>
<td>12</td>
</tr>
<tr>
<td>Circuit and System Simulation (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Computer and Network Security</td>
<td>12</td>
</tr>
<tr>
<td>Computer Robotics Control</td>
<td>12</td>
</tr>
<tr>
<td>Digital Design Automation</td>
<td>12</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>12</td>
</tr>
<tr>
<td>Digital System Design (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Electrical Energy Conversion</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Project Design and Management</td>
<td>12</td>
</tr>
<tr>
<td>Enterprise and Cloud Networks</td>
<td>12</td>
</tr>
<tr>
<td>Image Systems Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Microcomputer Systems Design</td>
<td>12</td>
</tr>
<tr>
<td>Microwave Circuits</td>
<td>12</td>
</tr>
<tr>
<td>Mobile and Personal Communications Systems Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Network Access Systems (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Network Design and Performance</td>
<td>12</td>
</tr>
<tr>
<td>Network Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Network Management</td>
<td>12</td>
</tr>
<tr>
<td>Network Services and Internet Applications (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Communication Systems (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Optical Fibre Technology (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Professional Engineering Project</td>
<td>12</td>
</tr>
<tr>
<td>Professional Engineering Advanced Project</td>
<td>12</td>
</tr>
<tr>
<td>Project Management and Entrepreneurship (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Project Preparation, Planning and Problem Solving</td>
<td>12</td>
</tr>
<tr>
<td>Radar Systems 1</td>
<td>12</td>
</tr>
<tr>
<td>Real Time Estimation and Control</td>
<td>12</td>
</tr>
<tr>
<td>Real Time Systems Design</td>
<td>12</td>
</tr>
<tr>
<td>Renewable Electrical Energy Systems</td>
<td>12</td>
</tr>
<tr>
<td>Research Project</td>
<td>48</td>
</tr>
<tr>
<td>Satellite Communication Systems Engineering (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Semiconductor Device Fabrication (PG)</td>
<td>12</td>
</tr>
<tr>
<td>Sensors and Measurement Technologies</td>
<td>12</td>
</tr>
<tr>
<td>Wireless Sensor Networks</td>
<td>12</td>
</tr>
</tbody>
</table>
Industry Connections

Industry plays a vital consultative role in the program through membership of the School Program Advisory Committee (PAC). Other members of the PAC include alumni and academic staff. There are also extensive links with industry, particularly through laboratories that incorporate work-integrated learning, through research projects, consulting, and through industry-sponsored student design projects. Notable industry links for this program are:

- Telstra
- ARCIA (Australian Radio Communication Industry Association)
- ITC Global
- Juniper Networks
- RFS (Radio Frequency Systems)
- JRD Communications Pty Ltd
- Microchip Australia Pty Ltd
- TE Connectivity
- National Instruments
- Analog Devices Australia
- Engineers Australia
- IEEE (Institute of Electrical and Electronic Engineers)
- IET (Institution of Engineering and Technology)

Career

Graduates work in leadership roles in telecommunication and network industries. In the private sector, graduates work in the design, manufacture and supply of telecommunication and network devices, systems and services. In the public sector, graduates provide the community with essential services in areas such as:

- telecommunications
- networking
- transportation
- security
- defence
- health
- education
- emergency services
- environment protection

Other graduates establish their own business or undertake higher studies by research.

Pathways

You may be eligible for advanced standing based on your previous studies.

Entry Requirements

Successful completion of an Australian bachelor degree in science or engineering in computer, electronic, telecommunications or electrical disciplines, or relevant industrial experience as a qualified technologist. International qualifications are assessed according to the Australian Qualifications Framework (AQF).

Profile

"Already working as a Senior Technical Consultant in the telecommunication and networking industry, I wanted to advance in my career and specialise further in my field, so I decided to undertake postgraduate studies.

"I decided to study the Master of Engineering (Telecommunication and Network Engineering) as communication engineering is an essential need of any global industry. It is also a field influenced by ever-changing, newer technologies.

"RMIT University is one of the best engineering institutes in Australia, as well as globally. Its reputation, along with the opportunity to specialise in your preferred topic/topics, positions graduates well in industry. The courses are well balanced with both theoretical and practical studies.

"Undertaking postgraduate studies has given me more confidence. I feel that I can work with stakeholders more effectively and successfully.

"I will continue working full-time while I complete my masters degree. I expect my postgraduate studies will better position me for a career in research and product or technology consulting."

Francis Shibu Thanadan
Master of Engineering
(Telecommunication and Network Engineering)
Master of Engineering

Transport Systems Engineering

Program Code
MC261

Campus
City campus
Some projects may be based on Bundoora campus

Duration
2 years full-time or 4 years part-time. Midyear places may be available.

2016 Tuition Fee
Full-Fee Places
$28,800 per year full-time.

Please refer to Fees Explained on page 50.

How to Apply
Apply directly to RMIT University at www.rmit.edu.au/programs/apply/direct.

Please refer to How to Apply on page 51.

Further Information
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260

URL
www.rmit.edu.au/programs/mc261

This program addresses the increasing need for engineers with comprehensive knowledge of transportation and logistics systems and their social, economic and technological impact.

The Master of Engineering (Transport Systems Engineering) addresses the fundamentals of transport and logistics and the development of solutions for specific problems in planning, design, management and operation of transport infrastructure and facilities.

You will enhance your career prospects by developing advanced knowledge and skills in transport and logistics engineering and management. You will gain the skills to step up as a project leader, consultant or manager with the expertise to lead the implementation of new technologies and operating practices in transport and logistics.

The program will deepen the knowledge of engineers working with road, traffic or public transport authorities and logistics and supply chain organisations.

You will study courses specifically designed to meet the demand for engineers with high-level skills in:

— sustainable transport systems
— intelligent transport systems
— railway infrastructure
— rail transport engineering
— advanced transport infrastructure
— urban logistics
— emergency and humanitarian logistics
— reverse logistics
— supply chain management

With a focus on project-based and multi-disciplinary learning, you will develop professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

Learning and Teaching

This program incorporates blended learning, which includes face-to-face teaching, intensive and e-learning delivery modes.

You will also undertake comprehensive laboratory work and industry visits. Through the laboratory program you will use specialist equipment for both testing and researching problems and solutions.

Through common core courses you will engage with the wider engineering community, enhancing your experience and enabling cross-disciplinary learning.

You will have access to online resources through the myRMIT student portal.

Program Structure

The program consists of 192 credit points and will meet Australian Qualifications Framework (AQF) level 9 Learning Outcome.

The program shares a common first and fourth semester with other masters of engineering programs and includes a research component.

Year One

Complete the following four courses:

— Sustainable Engineering Practice and Design
— Innovation and Technology Management
— Risk and Project Management
— Modelling and Simulation of Engineering Systems;

Complete the following four courses:

— Integrated Logistics Support Management
— Logistics Engineering and Systems
— Sustainable Transport Systems
— Intelligent Transport Systems

Year Two

Select and complete three of the following courses:

— Integrated Transport Planning
— E-Business Supply Chains
— Airline Operations Management
— Avionics and ATM Systems
— Railway Infrastructure
— Advanced Transport Infrastructures; and

Complete the following course:

— Research Methods in Engineering;

Complete the following course:

— Master’s Research Project; or

Complete the following two courses:

— Master’s Research Project Part 1
— Master’s Research Project Part 2
Industry Connections

The program includes exposure to a range of Australian and international companies through industry visits.

Industry plays a vital role in the development, delivery and assessment of the program with input through the School Program Advisory Committee (PAC), which comprises experienced representatives, as well as academic staff and alumni.

The program also facilitates networking opportunities with fellow engineering masters students from a range of disciplines and industries.

Career

There is an increasing demand for transport and logistics engineers in the public and private sectors.

With the Port of Melbourne being Australia’s largest container and general cargo port, Victoria has a pre-eminent national role in transport and logistics.

Employers need transportation and logistics engineers in all areas ranging from transport planning and modelling, traffic impact analysis, road safety audits, manufacturing, transportation and physical distribution, warehousing, port management, aviation and supply chain management.

Professional Recognition

Engineers Australia accreditation will be sought for this program in accordance with accreditation timelines.

Pathways

If you have completed a Bachelor of Engineering program in transport systems engineering, at AQF level 8 or equivalent, you may be eligible to receive up to 96 credit points of advanced standing into the program.

On completion of the Master of Engineering (Transport Systems Engineering) you will meet the eligibility criteria to apply for the PhD (Mechanical and Manufacturing Engineering).

Entry Requirements

— A bachelor degree in engineering, engineering science or engineering technology, (or equivalent qualification), with a major study in one or more of the following relevant engineering disciplines: civil, mechanical, aerospace, automotive or equivalent; or

— A Master of Engineering by coursework in one of the relevant disciplines listed above.

Applicants should have a Grade Point Average (GPA) of at least 2.5 out of 4.0; however, applicants who have a GPA between 2.0 and 2.5 and also a minimum of two years relevant work experience will also be eligible for consideration. International qualifications are assessed according to the Australian Qualifications Framework (AQF).
After completing a Bachelor of Engineering (Production) at Mumbai University, I was very keen on learning more about these concepts at an advanced level. I was looking for a program that had the perfect balance of manufacturing and management skills, which is what RMIT offered. Also, I was truly impressed with the good reputation RMIT has in the engineering field.

The highlight of my studies was my final semester research project based on the concept of 3D printing. Another highlight was the supportive staff and my professors and mentors who have always inspired and encouraged me to give my best.

During my studies I undertook an internship two days a week at ANCA. This company is a CNC manufacturer that is all about automated machining, giving me thorough knowledge of the area that I'm passionate about. This was an awesome experience and I was lucky to have great mentors guiding me through different projects. It gave me an opportunity to understand and relate real industry practice to textbook knowledge. Luckily, my internship has led to a role with the company where I am now working as a Junior Manufacturing Engineer. In the future I'd also like to complete a PhD in the field of 3D printing. My dream job would be related to taking 3D printing to the next level.
The tuition fees vary according to each program and are adjusted on an annual basis. Fees for 2016 are listed in this brochure or visit [www.rmit.edu.au/programs/fees](http://www.rmit.edu.au/programs/fees) from October 2015. RMIT reserves the right to adjust fees for full-fee places on an annual basis by an amount that will not exceed 7.5% each year (subject to rounding). For higher education fees, tuition fees are rounded up to the nearest $10 per credit point increment. The absolute fee increase may exceed 7.5%.

### Program Code - Award Title - Duration - Full-Time Annual Program Fee - Page

<table>
<thead>
<tr>
<th>Program Code</th>
<th>Award Title</th>
<th>Full-Time Duration</th>
<th>2016 Annual Program Fee</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC225</td>
<td>Master of Engineering (Aerospace)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>6</td>
</tr>
<tr>
<td>MC238</td>
<td>Master of Engineering (Airworthiness)</td>
<td>1 year full-time</td>
<td>$28,800</td>
<td>8</td>
</tr>
<tr>
<td>MC257</td>
<td>Master of Engineering (Civil Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>10</td>
</tr>
<tr>
<td>MC244</td>
<td>Master of Engineering (Computer Aided Engineering and Design)</td>
<td>1 year full-time</td>
<td>$28,800</td>
<td>12</td>
</tr>
<tr>
<td>MC180</td>
<td>Master of Engineering (Electrical and Electronic Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>14</td>
</tr>
<tr>
<td>MC235</td>
<td>Master of Engineering (Electrical Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>16</td>
</tr>
<tr>
<td>MC233</td>
<td>Master of Engineering (Electronic Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>18</td>
</tr>
<tr>
<td>MC254</td>
<td>Master of Engineering (Environmental Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>20</td>
</tr>
<tr>
<td>MC230</td>
<td>Master of Engineering (International Automotive Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>22</td>
</tr>
<tr>
<td>MC190</td>
<td>Master of Science (International Sports Technology)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>24</td>
</tr>
<tr>
<td>MC226</td>
<td>Master of Engineering (Management)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>26</td>
</tr>
<tr>
<td>MC224</td>
<td>Master of Engineering (Manufacturing)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>28</td>
</tr>
<tr>
<td>MC258</td>
<td>Master of Engineering (Mechanical Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>29</td>
</tr>
<tr>
<td>MC206</td>
<td>Master of Engineering (Micro-Nano Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>31</td>
</tr>
<tr>
<td>MC255</td>
<td>Master of Engineering (Process Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>32</td>
</tr>
<tr>
<td>MC256</td>
<td>Master of Engineering (Robotics and Mechatronics Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>34</td>
</tr>
<tr>
<td>MC207</td>
<td>Master of Engineering (Structures and Forensics)</td>
<td>1 year full-time</td>
<td>$28,800</td>
<td>36</td>
</tr>
<tr>
<td>MC229</td>
<td>Master of Engineering (Sustainable Energy)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>38</td>
</tr>
<tr>
<td>MC240</td>
<td>Master of Sustainable Practice</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>40</td>
</tr>
<tr>
<td>MC228</td>
<td>Master of Engineering (Systems Support Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>42</td>
</tr>
<tr>
<td>MC234</td>
<td>Master of Engineering (Telecommunication and Network Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>44</td>
</tr>
<tr>
<td>MC261</td>
<td>Master of Engineering (Transport Systems Engineering)</td>
<td>2 years full-time</td>
<td>$28,800</td>
<td>46</td>
</tr>
</tbody>
</table>

Fee listed is based on a full-time study load. For details refer to Fees Explained on page 50.

Profile

“After studying my bachelor degree in mechanical engineering in Venezuela, I undertook an internship in the operations department of a factory. This got me interested in new operational philosophies and world-class methods, which is why I decided to specialise my postgraduate studies in manufacturing.

“The RMIT manufacturing program has a good balance between practical and theoretical teaching. It includes subjects about strategy and logistics, which I consider important.

“I’ve learned to use several software programs and tools to improve production processes. I’ve learned that flexibility and integration are important qualities to succeed in any project.

“The highlight of my studies has been getting to meet new people from all over the world and sharing our different backgrounds.

“My plan is to settle here in Australia and to own a successful factory, maybe related to women’s fashion and beauty.”

Dahira Navarro
Master of Engineering (Manufacturing) (page 28)
Fees Explained

Postgraduate Studies by Coursework
What you pay will depend on whether you are offered a Commonwealth supported place (CSP) or a full-fee place. Financial assistance is available to eligible students regardless of the type of place you enrol in.

Commonwealth Supported Places (CSP)
A Commonwealth supported place is a place at university where the tuition fee is jointly paid by you and the Australian Government. Your share of the fee (student contribution) is set by the government and is determined by the discipline areas (bands) of your individual enrolled courses, not the overall program. For more information about what fees you will pay in 2016 visit www.rmit.edu.au/programs/fees.

The Australian Government has announced changes to the funding of CSPs. These may affect the proportion of the fee paid by student contribution from 2016. For more information visit www.rmit.edu.au/programs/fees and www.studyassist.gov.au.

Full-Fee Places
Students in full-fee places are required to pay a tuition fee that covers the full tuition costs of their program. The tuition fees vary according to each program and are adjusted on an annual basis. Financial assistance may be available through the FEE-HELP scheme (see right for details).

Only students who are Australian citizens, New Zealand citizens or hold an Australian Permanent Resident Visa are eligible for a domestic full-fee place. Students who do not meet these citizenship and residency requirements may be offered a place as an onshore international student.

Fees for 2016 are listed under each program in this booklet or visit www.rmit.edu.au/programs/fees from October 2015.

Postgraduate Degrees by Research
If you are an Australian citizen, Australian permanent resident or New Zealand citizen you may be eligible for a Research Training Scheme (RTS) place where your tuition costs are funded by the Commonwealth Government and you therefore have full exemption from tuition fees.

Acceptance in an RTS place is very competitive and places are granted on the condition that you meet progress requirements and complete within the allotted time for your program and your status as a part-time or full-time candidate.

www.rmit.edu.au/graduateresearch

Other Fees and Expenses
In addition to tuition fees, you will be charged a student services and amenities fee (SSAF), which is indexed annually. Eligible students can defer payment of the fee through SA-HELP. For more information visit www.rmit.edu.au/programs/fees/ssaf.

You may also be required to purchase items related to your program, including field trips, specified textbooks and equipment. These expenses vary from program to program. For more information visit www.rmit.edu.au/programs/fees.

Financial Assistance

Scholarships
Before you let financial constraints or living arrangements get in the way of your decision to study, find out about the range of RMIT scholarships available.

Coursework Scholarships Office
Tel. +61 3 9925 2811
Email: scholarships@rmit.edu.au
www.rmit.edu.au/scholarships

HECS-HELP
HECS-HELP assists eligible students in a Commonwealth supported place to pay their student contribution. To learn more about HECS-HELP visit www.rmit.edu.au/programs/fees/helploans/hecs-help.

FEE-HELP
FEE-HELP is an optional loan scheme that assists eligible students to pay all or part of their tuition fees. To learn more about FEE-HELP visit www.rmit.edu.au/programs/fees/helploans/fee-help.

Income Support
The Commonwealth Government has approved a number of RMIT University postgraduate programs for student income support payments. The list of approved programs is available at www.rmit.edu.au/programs/fees/highered/masters.

To check your eligibility for student income support or rent assistance, please contact Centrelink or visit www.humanservices.gov.au.

Income Tax Deductions
Students may be eligible to apply for income tax deductions relating to the education expenses that are linked to their employment. The Australian Taxation Office (ATO) website at www.ato.gov.au provides guidance on the taxation treatment of your fees.
How to Apply

Postgraduate Studies by Coursework and Honours Degrees

Entry Requirements
To be considered for admission you must meet the RMIT University entry requirements as well as any program entry requirements. Entry requirements for each program can be accessed via www.rmit.edu.au/study-with-us

Direct Application
Apply online at www.rmit.edu.au/programs/apply/direct.

Finding a Supervisor
Before you apply, you need to find qualified supervisors with similar research interests to you and discuss a research proposal with them. It is recommended that you start by contacting the Higher Degrees by Research Coordinator in the academic school to which you are applying, as they can direct you to appropriate potential supervisors. The supervisors will read and comment on your proposal and indicate if they are willing to supervise you. Your research proposal must be included in your application.

Application Process
Application for candidature involves three steps:
1. Find a program and confirm eligibility.
2. Seek academic advice and secure the support of qualified supervisor(s).
3. Complete and submit the application form and supporting documents.
For detailed information visit www.rmit.edu.au/programs/apply/research or contact the School of Graduate Research at www.rmit.edu.au/graduateresearch.

Application Timelines
Applications to higher degree programs are accepted all year round. There are two scholarship rounds.
Applications for 2016 scholarships are open from 1 July until 31 October 2015. For more information visit http://www.rmit.edu.au/research/phds-and-other-research-degrees/scholarships-and-support/.

Postgraduate Degrees by Research

Entry Requirements
To be considered for admission you must meet RMIT University entry requirements as well as any program entry requirements. Refer to the program URL on page 4 for entry requirements before applying. For more information visit www.rmit.edu.au/programs/research.

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Further Information
Info Corner
330 Swanston Street (cnr La Trobe Street)
Melbourne VIC 3000
Tel. +61 3 9925 2260
Why Postgrad?

A Competitive Edge

Employment opportunities increase by 85% after completing a postgraduate qualification.*

Increase Your Earnings

On average, a postgraduate qualification will up your long-term earnings by more than 15%.

Turn Career Dreams into Reality

Almost 50% of people feel like they are in the wrong career. A postgraduate qualification will empower you to follow your passion.

Why RMIT?

1. Take your career to the next level

RMIT was ranked 79th in the world by global employers for graduate employability in the 2014 QS World University Rankings.

2. Flexibility that works for you

40% of RMIT’s 11,700 postgraduate students study part-time with many flexible learning options.

3. Broaden your horizons

RMIT offers exchange opportunities at over 200 institutions across 41 countries.

4. Open doors to worldwide opportunities

RMIT has over 200 research collaborations with overseas partners and industry. RMIT graduates are employed in more than 100 countries around the world.

5. Transform the future through research

RMIT is ranked as one of the top five Australian universities for excellence in key research disciplines, and was awarded more than $19 million in research funding in 2014.

6. Education that packs a punch for your prospects

RMIT is ranked as one of the world’s top 35 universities for key subject areas in the 2015 QS World University Rankings.

The information in this guide is specific to Australian and New Zealand citizens and permanent residents of Australia.

RMIT University
Info Corner
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Melbourne VIC 3000
Tel. +61 3 9925 2260
Email: study@rmit.edu.au
www.rmit.edu.au

Disclaimer: The information contained in this guide is subject to change without notice. It is the responsibility of the applicant to check and confirm all general and specific program information prior to lodging an application for enrolment. For the most up-to-date program information, please refer to the RMIT University website.

Visit www.rmit.edu.au. This guide is designed for Australian and New Zealand citizens and permanent residents of Australia. Vocational education programs are delivered with Victorian and Commonwealth funding for eligible students. RMIT University CRICOS Provider Code: 00122A. RTO Code: 3046.