2012 POSTGRADUATE ENGINEERING

» Aviation industry management
» Aviation safety and risk management
» Engineering management
» Integrated logistics management
» International automotive engineering
» Manufacturing engineering
» Sustainable energy
» System support engineering
» Systems engineering
» Research programs

GROWING TALENT AND INNOVATION
‘I am passionate about aerospace technology, which is why I chose to study at RMIT University. RMIT has one of the best reputations in the aerospace sector and has great industry connections.

‘I have gained invaluable skills in research, critical analysis, presentation delivery, networking, designing practical experiments, teaching, communication and writing while studying at RMIT.’

ALI DALIRI, MASTER OF ENGINEERING (AEROSPACE ENGINEERING) BY RESEARCH
Overview of the School of Aerospace, Mechanical and Manufacturing Engineering

The School of Aerospace, Mechanical and Manufacturing Engineering is recognised by industry and general community for its work-relevant education programs, supreme research facilities, creative real-world project work and robust relations with local and international industry leaders.

The School has achieved significant successes in advanced design and manufacturing across different application areas and industry sectors. It is these successes that place the School at the pinnacle of engineering institutions in Australia and overseas.

INTERACT WITH RMIT

You can now interact with RMIT through several web, mobile and social networking tools listed at www.rmit.edu.au/interact

www.facebook.com/RMITUniversity
http://twitter.com/rmit
www.youtube.com/user/rmitmedia

WORK-INTEGRATED LEARNING

RMIT is committed to work-integrated learning (WIL) by incorporating WIL experiences such as professional practice placements and learning tasks related to workplace experience as positive features of the programs. WIL is an integral component in many assessment requirements that require problem-based learning and critical reflection on practice.
AVIATION INDUSTRY MANAGEMENT

Master of Aviation Industry Management

RMIT program code
MC045

CRICOS code
061669E

Location
City campus
Distance education

Mode and duration
1.5 years full-time or
3 years part-time
Midyear places may be available.

Exit points
Graduate Diploma in Aviation Industry Management
RMIT program code: GD042
CRICOS code: 061668F
1 year full-time or
2 years part-time

Graduate Certificate in Aviation Industry Management
RMIT program code: GC026
CRICOS code: 061667G
0.5 years full-time or
1 year part-time

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www.rmit.edu.au/programs/international

www.rmit.edu.au/programs/mc045

Aviation is a dynamic international industry. There is a world-wide industry trend that indicates the need for aviation managers with higher-level qualifications to function effectively in this highly competitive field.

In recognition of the industry’s need for management training, RMIT offers the Master of Aviation Industry Management program with a special focus on the aviation industry. This is an international program, and includes partnerships with airlines, airports, MROs, freight organisations and other educational institutions in four countries.

Program objectives
The aviation industry management programs aim to apply modern management techniques to the air transport industry. They cater for those from industry needing enhanced skills and knowledge for advanced management positions, and recent graduates intending to make a career in the air transport industry. Care has been taken to reflect the international nature of the air transport and air operations business, by ensuring the programs have relevance to students from all parts of the world.

Benefits of the program
» A relevant introduction to air transport for recent graduates.
» Training for those with managerial potential.
» An opportunity to enter the civil air transport business for those wanting to change career paths.
» An industry-driven program linking current practice with theoretical models for an integrated practitioner approach for those advancing their careers.

Pathway
Advanced entry may be given on the basis of significant industry experience and/or relevant postgraduate studies.

Career outlook
The Master of Aviation Industry Management is relevant to individuals making a mid-career transfer to management from operations or engineering professional streams in the aviation industry.

It is also relevant to professional managers wishing to transfer into the aviation sector. It offers graduates the opportunity to transfer up into operational or strategic managerial positions.

Entrance requirements
Applicants are required to:
» have a first degree
» already be in the aviation industry or wishing to enter it
» work experience is not mandatory but desirable.

Alternatively, candidates without a first degree but with a significant technical background (e.g. ATPL, LAME or ATC) and work experience will be considered on a case-by-case basis.

Application procedure
RMIT direct application

Fees
Full fee-paying Australian residents
2012: A$24 960 per year full-time
International full fee-paying students
2012: A$29 760 per year full-time

Fees are payable at the commencement of each semester and are calculated annually.

Please refer to fees on page 17 for further information.

What you will study
The master consists of 144 credit points. This incorporates graduate diploma (96 credit points) and graduate certificate (48 credit points).

The following is an example of courses offered.

Graduate certificate
Credit points
Core aviation generalist units 24
Core business foundation unit 12
Aviation elective 12

Additional courses to be completed for the Graduate diploma
Core aviation generalist units 36
Aviation elective 12

Additional courses to be completed for the Master
Aviation research project 24
Core aviation generalist unit 12
Aviation elective 12

Electives list
Airline alliances
Airline marketing
Aviation safety systems
Human factors in aviation safety
Incident and accident investigation
Integrated logistics support management
The issue of aviation safety is a global one that is increasing in urgency. The introduction of new, stringent requirements for the implementation of safety management systems by the International Civil Aviation Organization (ICAO) and national regulators (CASA and CAA NZ), combined with the increasing requirements for corporate governance, means the field is one of the most rapidly growing disciplines in the industry.

RMIT’s Graduate Certificate in Aviation Safety and Risk Management focuses on this specialised sector of the aviation industry. Designed for individuals currently working within the industry (airlines, airports, and defence logistics), the program aims to produce graduates equipped to meet the growing needs of aviation safety and risk management.

Pathway
The Graduate Certificate in Aviation Safety and Risk Management is a specialist program allowing for articulation into the Master of Aviation Industry Management.

Career outlook
Graduates will be competitively positioned for advancement as safety managers or in safety related fields (e.g. safety auditors, safety trainers, consultants or developers of safety systems).

Entrance requirements
Selection is based on bachelor degree performance/prior qualifications or industry experience.

Selection criteria includes:
» a personal statement by the applicant indicating their reasons for undertaking this program
» a letter of support from their employer indicating their support for the applicant’s personal and professional development (this can include, but is not limited to, financial support, since many learning and assessment activities will be action research, based on the employing organisation).
“I decided to study engineering management as it connects the principles of engineering and management and how to optimise these within an organisation. I chose RMIT because of its reputation of converting knowledge into practice. The lecturers have various professional backgrounds and have rich experience in solving engineering management and related issues.

‘Through studying the Master of Engineering (Management), I am gaining a clear understanding of the many facets of contemporary project management and the impact that new technology is having on engineering-based organisations.

‘I have really enjoyed studying risk management and feasibility. The tutor utilised case studies from his work experiences, which made it easier to understand the theory learnt in lectures. The teaching connects real world issues with the theory, which helps to prepare students for the workplace.

‘After I graduate I plan to travel and participate in internships to gather further experience. I hope this degree will help me to gain an administration role in an engineering and technology-based organisation.’

Yang Liu
Master of Engineering (Management)
The Master of Engineering (Management) program aims to prepare graduates for leadership roles in the management of engineering and technology-based organisations. The program is tailored to individual needs, allowing students to develop skills and expertise in a broad range of engineering management practices. Students can focus their 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, and systems engineering. Specialisations from other areas within RMIT are also available.

The program’s major strengths come from a focus on: 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; and developing a systems approach to problem and/or opportunity definition.

Students develop an understanding of the many facets of contemporary engineering management and the impact of new technology and technological change on engineering and technology-based organisations.

The program exposes students to real-world issues in the areas of risk and feasibility, managing innovation, developing thinking approaches, quality management, environmental management systems, cleaner production, strategic planning, financial management, performance management, international issues, and technology management.

Pathway
Advanced entry into the master program may be given on the basis of significant industry experience and relevant postgraduate studies.

Career outlook
The program is intended to prepare individuals who will assume management responsibilities in engineering and technology-based enterprises and organisations.

Exit points
Graduate Diploma in Engineering Management
RMIT program code: GD049
CRICOS code: 029677E
1 year full-time or
2 years part-time
Graduate Certificate in Engineering Management
RMIT program code: GC034
CRICOS code: 024383D
0.5 years full-time or
1 year part-time

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www.rmit.edu.au/programs/international
www.rmit.edu.au/programs/mc052
Master of Engineering (Integrated Logistics Management)

RMIT program code: MC054
CRICOS code: 022248E

Location
City campus
Distance education (some courses only)

Mode and duration
1.5 years full-time or 3 years part-time
Midyear places may be available.
International students can only study full-time.

Exit points
Graduate Diploma in Integrated Logistics Management
RMIT program code: GD051
CRICOS code: 060678A
1 year full-time or 2 years part-time
Graduate Certificate in Integrated Logistics Management
RMIT program code: GC075
CRICOS code: 060677B
0.5 years full-time or 1 year part-time

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www.rmit.edu.au/programs/international
www.rmit.edu.au/programs/mc054

The integrated logistics management programs equip you with the knowledge and skills needed to master the modern integrated logistics environment and operate successfully in it.

The Master of Engineering (Integrated Logistics Management) provides a postgraduate, vocationally-oriented program for practising managers in the field of integrated logistics management.

In combining elements of the programs presented by the Business School of Economics, Finance and Marketing and the School of Aerospace, Mechanical and Manufacturing Engineering, RMIT has identified a logistics management and systems engineering approach that matches the needs of military organisations, defence-related industries and capital intensive industries.

The coursework and the major research project give both depth and breadth towards studies. Each stage of study is provided with flexible delivery modes to combine continuing education with the students’ busy work schedules.

Pathway
Advanced entry may be given on the basis of significant industry experience and/or relevant postgraduate studies.

Career outlook
The program produces graduates who can contribute as professionals in the rapidly expanding field of logistics management.

Professional recognition
The award is recognised by the Society of Logistics Engineering (SOLE).

Entrance requirements
Direct entry to the Master of Engineering (Integrated Logistics Management) or graduate diploma normally requires any bachelor degree or equivalent in any discipline in engineering, science or business. Entry to the graduate certificate may be considered for those who lack the academic qualifications, but have significant work and professional experience.

Successful completion of the graduate certificate may qualify a student to proceed to the Graduate Diploma in Integrated Logistics Management and Master of Engineering (Integrated Logistics Management).
Higher levels of technology in today’s automotive industry have led to government and regulatory bodies imposing stringent environmental and safety standards on automobile manufacturers. As a result, there is a worldwide need to increase the knowledge and skill levels of the automotive industry.

The Master of Engineering (International Automotive Engineering) provides students with an in-depth understanding of engineering disciplines of the automotive production lifecycle. It exposes students to state-of-the-art infrastructure and different work ethics by providing the opportunity to carry out work experience or research projects at multinational automotive companies worldwide.

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 program 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 power-trains, and light structures.

Global connections
There are very strong links with the University of Applied Science in Ingolstadt-Germany. Also, the Master of Engineering (International Automotive Engineering) has been approved for delivery in Singapore.

Students who select to pursue the RIERRP program will have the opportunity for a six-month industry placement in a major overseas automotive manufacturer or supplier such as VolksWagen, AUDI, BMW, Bosch or Siemens.

Advanced standing
Students with relevant postgraduate qualifications or significant work experience can apply for course exemptions upon application and may be required to sit a challenge test. An application processing fee may be applicable.

Pathway
Candidates for the master program who have completed a Graduate Diploma in International Automotive Engineering may articulate directly into the Master of Engineering (International Automotive Engineering).

Candidates for the graduate diploma who have completed a Graduate Certificate in International Automotive Engineering may articulate directly into the Graduate Diploma in International Automotive Engineering.

Career outlook
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.

In catering for local and international students this program offers the flexibility for specialisation in automotive design and development as well as in automotive manufacturing engineering processes. It develops the specialised automotive engineering skills that are currently in short supply, but are increasingly in high demand by the automotive industry.

Entrance requirements
A bachelor degree in engineering or applied science is mandatory. Relevant industry work experience is an advantage.

Application procedure
RMIT direct application

Fees
Full fee-paying Australian residents
2012: A$24 000 per year full-time
Fees are payable at the commencement of each semester and are calculated annually.
Please refer to fees on page 17 for further information.

Additional costs
Additional expenses may relate to the purchase of lecture notes, and textbooks.

What you will study
The development of the program’s curriculum was carried out in consultation with a range of automotive industry and education stakeholders including the University of Ingolstadt, Germany, AutoCRC, Ford Australia, General Motors Holden, Pacifica, Futuris, SAE-Australasia.

The master consists of 144 credit points. This incorporates graduate diploma (96 credit points) and graduate certificate (48 credit points).
The following is an example of courses offered.

**Year one**

**Credit points**

**Semester one**

- Computational engineering for automotive applications 12
- Management of automotive design and development 12
- Management of automotive manufacturing 12
- Automotive project 1 12

**Semester two**

- Automotive materials 12
- Automotive systems and control 12
- Automotive project 2 12
- Elective 12

**Year two**

- Automotive research project 24
- Electives 24

**Electives**

Program electives may include

- Advanced CAE for automotive applications 12
- Automotive electronics 12
- International industry experience 2 (available year two only) 24
- Vehicle noise vibration harshness 12
- Vehicle power-train technologies 12
- Other electives from the following Postgraduate Programs offered by the School of Aerospace, Mechanical and Manufacturing Engineering:
  - Engineering management
  - Integrated logistics management
  - Manufacturing
  - Quality management
  - Sustainable energy
  - Systems engineering

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**RMIT HYDROGEN POWERED RACE CAR LEADS THE WAY**

Developed in collaboration with Germany’s Fachhochschule Ingolstadt University of Applied Sciences, the hydrogen car project introduced a radically different approach to design and development of sustainable automotive technologies.

Professor Aleksandar Subic, Head of RMIT’s School of Aerospace, Mechanical and Manufacturing Engineering, said, ‘With over 900 million vehicles on the world’s roads responsible for around one third of greenhouse gas emissions, the global automotive industry is increasingly open to the incredible possibilities of hydrogen as the clean, renewable fuel of the future.

‘By aiming to set a new speed record for one-seater, hydrogen-powered racing cars, we want to show the world the possibilities of this alternative clean technology, both for conventional passenger vehicles and in racing.’

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Developed in collaboration with Germany’s Fachhochschule Ingolstadt University of Applied Sciences, the hydrogen car project introduced a radically different approach to design and development of sustainable automotive technologies. The project aimed to showcase the clean, renewable possibilities of hydrogen technology, both for conventional passenger vehicles and in racing. RMIT’s automotive research and development efforts are leading the way in sustainable automotive technologies.
The environment of manufacturing companies is undergoing dramatic change worldwide. New technology, customer expectations, and global competition have combined to force new approaches to automation, factory design and manufacturing systems.

As the pace of change accelerates, it brings the need for trained professionals versed in new technologies and modes of manufacturing to apply them strategically in industry. While manufacturing companies use computerised information systems, the need to achieve true systems integration requires adoption of ‘whole enterprise’ modelling approaches. As production machines and processes are increasingly under computer/microprocessor control, there is a need for more sophisticated approaches to maintenance management.

The programs aim to provide you with the knowledge and skills to lead the introduction of change, adoption of new technologies and implementation of new operating practices in manufacturing businesses.

The Master of Engineering (Manufacturing) program is structured in two stages. If you enrol in the master program you may exit with a Graduate Diploma in Manufacturing at the end of stage one.

Career outlook
The program 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. It is envisaged that the future career path of Master of Engineering (Manufacturing) graduates will lead to the level of technical director or operations director, or to technical systems consultant.

Entrance requirements
A recognised bachelor degree in engineering, science or a related discipline.

Application procedure
RMIT direct application

Fees
Full fee-paying Australian residents
2012: A$24 960 per year full-time

International full fee-paying students
2012: A$29 760 per year full-time

Fees are payable at the commencement of each semester and are calculated annually.

Please refer to fees on page 17 for further information.

What you will study
The master consists of 144 credit points. This incorporates graduate diploma (96 credit points). The following is an example of courses offered.

Graduate diploma
Credit points
Stage one
(equivalent to two semesters full-time)
» Building quality organisations 12
» Computer integrated manufacturing 12
» Design for manufacture 12
» Lean manufacturing 12
» Manufacturing information and distribution systems 12
» Manufacturing strategy and planning 12
» Research investigation and analysis 12
Select one elective course
» Industrial systems and environment 12
» Intelligent materials and processes 12
» Planning and control 12
» Quality systems 12

Additional courses to be completed for the Master
Stage two
(equivalent to one semester full-time)
» Automotive materials 12
» Enterprise modelling 12
» Maintenance and reliability 12
» Manufacturing research project 12

The Master of Engineering (Manufacturing) is being restructured from June 2012 to include a Graduate Certificate in Manufacturing and new courses in additive manufacture to capture the establishment of the new Advanced Manufacturing Precinct at the City campus and its focus on additive manufacturing technologies.
The sustainable energy programs provide a pathway for engineers and scientists, or those with an alternative acceptable qualification and significant experience in industry, to gain a qualification in the burgeoning area of sustainable energy. Sustainable energy embraces technologies and practices to improve efficiency and reduce adverse environmental and social impacts of conventional energy sources, and to use alternative renewable energy sources.

With increasing concern about climate change, energy security, rising and fluctuating energy prices, pollution associated with energy production and consumption and managing the transition towards a more sustainable energy sector have become a priority for governments, the private sector and the general community. As a result, there is a rapidly growing demand for engineers and scientists with a postgraduate specialisation in sustainable energy in Australia and internationally.

Advanced standing
Advanced standing may be given on the basis of significant industry experience and/or relevant postgraduate studies.

Career outlook
Graduates will be able to take a lead role in their organisations in:
» developing and implementing plans 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, 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 impacted by energy-related projects and developments.

Graduates have the opportunity to work in a number of industries both locally and internationally. They will work on sustainable energy based projects as energy managers, projects managers and consultants.
System support engineering (SSE) is an emerging professional discipline that utilises a broad engineering skill set that allows engineers and managers to manage and operate complex engineering assets and systems in the highly demanding asset intensive industries such as transport, mining, defence, building services and many others. In the twenty-first century business environment, traditional maintenance-based approach is replaced by strategic outsourcing, where complete support solutions are placed in the hands of contractor organisations. Contractors are responsible for the full spectrum of support, including the ownership, sustainment and operation of assets. This shift requires professionals who have the ability to design and implement service solutions for complex systems. Organisations require professionals who can work across organisational and discipline boundaries and whose role is less about the delivery of a physical product to the provision of service support solutions where outcomes are negotiated and co-produced with the customer.

The MEng (SSE) program has strong industry engagement from BAE Systems, Saab Systems and ASC. The industry partners not only provide many valuable case studies to the program, but also enrol their engineers and professionals to undertake this program as a continual educational opportunity. The experts in these companies also develop some of the course materials in the program. The program also received government funding in the development phase, including inviting world-renowned professors from University of Cambridge to develop two of the courses in the program.

The primary objective of this program is to train future industry leaders in design and operation of support solutions for complex engineering systems. The specific dimensions of capability that underpin the program are:

» **Authoritative**: Have the comprehensive knowledge and understanding required to develop bespoke support solutions in a demanding customer environment.

» **Broad thinker**: Ability unfettered thinking styles, searching for solutions across the full spectrum of variables.

» **Business thinker**: You will be able to deliver good business value to all stakeholders with an eye for the bottom line.

» **Creative**: Conceive multiple and innovative solutions in different styles for bespoke problems.

» **Always improving**: Drive improvements into support operations continuously.

» **Connected**: Skills at connecting and communicating with people at all levels, including the customer, work teams and ad hoc networks.

» **Professional**: Affirm the dignity of people, and hold a well-informed conscience built on competence.

» **Leader**: Develop and lead a work community built on trust and respect, and with sustained performance.

**Career outlook**
Graduates will be in a position to take on leadership roles in support systems design and operations.

**Professional recognition**
This qualification can contribute to the grade of engineering executive, a new recognition by Engineers Australia.

**Entrance requirements**
Direct entry to the Master of Engineering (System Support Engineering) program normally requires a bachelor degree in engineering, applied sciences or equivalent.

Applications without a bachelor degree but with sufficient industry experience will be considered for entry into the graduate certificate or graduate diploma. Advancement to master level will be subject to satisfactory progress in the graduate certificate and/or graduate diploma levels.

**Application procedure**
RMIT direct application

**Fees**
Full fee-paying Australian residents 2012: A$24,960 per year full-time

Fees are payable at the commencement of each semester and are calculated annually.

Please refer to fees on page 17 for further information.

**What you will study**
The first and final courses are crucial to the program. The first course sets the context for the program, introducing the constituent courses, as well as the threads and case studies that provide coherency across the entire program. The final course draws all of these elements together, demonstrating how solution architectures may be devised, preparing for the major project that follows where the student will exercise acquired solution design competencies.

**Graduate diploma**

» **Engineering endurance systems**

» **Logistics engineering**

» **Maintenance and logistics integration**

» **Services and support operations**

» **Supply chain management**

» **Support environment**

» **Support solution architectures**

» **System engineering principles**

**Additional courses to be completed for the Master**

» **System support project 1 & 2**

* Students completing these courses can apply to be awarded the Graduate Certificate (Systems Engineering).
Master of Engineering (Systems Engineering)

RMIT program code  
MC046

CRICOS code  
002726A

Location  
City campus  
Distance education (some courses only)

Mode and duration  
1.5 years full-time or  
3 years part-time

Midyear places may be available.

International students can only study full-time.

Exit points  
Graduate Diploma in Systems Engineering  
RMIT program code: GD043  
CRICOS code: 029323J  
1 year full-time or  
2 years part-time

Graduate Certificate in Systems Engineering  
RMIT program code: GC027  
CRICOS code: 029764F  
0.5 years full-time or  
1 year part-time

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Domestic free call number: 1800 998 414  
Email: isu@rmit.edu.au  
www.rmit.edu.au/programs/international  
www.rmit.edu.au/programs/mc046

These programs provide you with greater technological understanding and improved management skills essential to resolving engineering, technological and organisational issues in the complex systems found in business and industry.

The programs focus on management theory and decision making in large, complex organisations with emphasis on human-technology interaction. As a result, graduates understand an entire system, how it functions, and what affects its operation.

The primary objective is to develop your ability to anticipate, recognise and solve problems; optimise human capabilities and performance; effectively use and allocate resources; and apply systems theory in management or product development situations.

The core courses are designed to provide knowledge about the theories and principles of systems and a basic set of tools for managerial analysis and decision-making. Students also undertake a systems research project. Emphasis must be on specific applications to real situations.

The programs have run for more than 30 years and have an international reputation for high-quality teaching and research activities.

Pathway  
Advanced entry may be given on the basis of significant industry experience and/or relevant postgraduate studies.

Career outlook  
The programs are intended for engineers and scientists who wish to broaden their career prospects by successful application of systems thinking and processes to resolve engineering, technology and resource problems.

Professional recognition  
The graduate certificate program is recognised by the International Council of Systems Engineering and the Systems Engineering Society of Australia.

Entrance requirements  
Direct entry to the Master of Engineering (Systems Engineering) or Graduate Diploma in Systems Engineering normally requires any bachelor degree or equivalent in any discipline in engineering, science or business.

Entry to the Graduate Certificate in Systems Engineering may be considered for those who lack the academic qualifications, but have significant work and professional experience.

Successful completion of the graduate certificate may qualify a student to proceed to the Graduate Diploma in Systems Engineering and Master of Engineering (Systems Engineering).

Application procedure  
RMIT direct application

Fees  
Full fee-paying Australian residents  
2012: A$24 960 per year full-time

International full fee-paying students  
2012: A$29 760 per year full-time

Fees are payable at the commencement of each semester and are calculated annually. Please refer to fees on page 17 for further information.

What you will study  
The master consists of 144 credit points. This incorporates graduate diploma (96 credit points) and graduate certificate (48 credit points).

The following is an example of courses offered.

Graduate certificate  
Credit points

- Case studies 1: project planning and infrastructure management 12
- Introduction to systems engineering 12
- Project management 12
- Systems engineering methodology 12

Additional courses to be completed for the Graduate diploma  
Select 48 credit points

- Systems research project 48
- Systems research project 1 24
- Systems research project 2 24
Research is conducted in a wide range of fields that underpin the design, development and manufacturing of advanced aerospace systems. These fields include aerodynamics, design, propulsion, structures, advanced materials, stability and control, maintenance and operations, systems engineering, engineering management and logistics. Research topics are typically multidisciplinary and can be industry based. Research projects may be conducted at the Wackett Aerospace Research Centre at Bundoora campus east.

**Entrance requirements**

**Master**
A high standard four-year degree or equivalent in engineering or related fields.

**PhD**
A degree with honours, a master by research, or Bachelor of Engineering with relevant research experience. You are normally required to complete an introductory research methods course at the beginning of the program.

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www.rmit.edu.au/programs/dr090

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Master and doctorate by research programs are conducted in a wide range of areas within the field of advanced manufacturing technology and systems. Research areas include computer integrated manufacturing, design for manufacturing, forming and machining technology, high-speed automation, robotics, laser technology, polymeric and composite product development, operations research, and quality management in manufacturing.

**Entrance requirements**

**Master**
Bachelor of Engineering, Bachelor of Science with at least one year's experience in manufacturing engineering.

**PhD**
Master of Engineering by research, Bachelor of Engineering (Honours), Bachelor of Engineering with research experience. You are normally required to complete an introductory research methods course at the beginning of the program.

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www.rmit.edu.au/programs/dr098

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Master and doctoral research programs are aligned with discipline strengths in the following main research areas: virtual engineering and design, industrial and vehicle aerodynamics, conservation and renewable energy (CARE), computational engineering (including CAD, FEA, CFD), applied heat and mass transfer, vehicle design and crashworthiness, engine and supercharger technologies, sports engineering, dynamics and control, and noise vibration harshness.

These research areas particularly focus on the automotive and biomedical industry (including the sports equipment industry).

**Entrance requirements**

**Master**
An honours degree in engineering or science (first class or upper second class honours) from a recognised tertiary institution.

**PhD**
An honours degree in engineering or science (usually first class honours) from a recognised tertiary institution.

It is important that research students are self-motivated since there is generally minimal program content and the students will be working in a high-level, industry-relevant environment. You are normally required to complete an introductory research methods course at the beginning of the program.

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www.rmit.edu.au/aeromecheng
“Renewable energy is an area that has received much publicity over recent years and has a significant effect on the way we live.

“As a mechanical engineer, I enjoyed working on geothermal energy, so as a PhD student, I hope to develop a new method for utilising the renewable energy source.

“RMIT is well known for its high quality facilities and laboratories, especially in renewable energy. The quality of equipment and facilities has helped me undertake my projects to a high standard, while RMIT’s close industry connections allow me to network with prospective employers.

“My supervisor is very knowledgeable and supportive, helping me to improve my skills in experimental and theoretical analysis. I have also gained a better understanding about a variety of engineering issues.

“A PhD in engineering gives you the opportunity to deal with problems relevant to real life and industry. A lot of self-motivation is required however it is very rewarding to see the results from your research projects. I plan on finishing my PhD before moving to a career with a renewable energy company.”

Anna Khaghani
Doctor of Philosophy (PhD) (Mechanical Engineering)
HOW TO APPLY

Coursework degrees

Direct application
Apply online at www.rmit.edu.au/programs/apply/direct
Timely applications for coursework programs are due by:
» 10 November each year (Semester 1) and
» 31 May each year (midyear Semester 2).
Midyear applications open 1 May www.rmit.edu.au/midyear
Applications will continue to be accepted until all places have been filled. You are encouraged to lodge your application early.

Supplementary information forms
Some postgraduate programs require applicants to complete a supplementary information form in addition to the direct application form.
www.rmit.edu.au/programs/apply/forms

Research degrees

Entrance requirements
There are minimum entry requirements for master by research and doctoral degrees. Due to strong competition for places, preference may be given to applicants with more than the minimum requirements.
All applicants need to find a supervisor with similar research interests as themselves and discuss a research project proposal with them. The research proposal must be included in your application.
Refer to contact details under each program or www.rmit.edu.au/graduateresearch/searchsupervisors

Master
A first degree from RMIT with at least a credit average in the final year; or a qualification deemed equivalent by RMIT to a first degree from RMIT with at least a credit average in the final year; or evidence of experience which satisfies RMIT that the applicant has developed knowledge of the field of study sufficient to undertake the proposed degree.
Note: Some degrees may require evidence of other qualifications or experience. Refer to the contact listed under individual degree entries before applying.

PhD
A degree of master by research from RMIT; or a degree of master by coursework from RMIT which includes a research component with a duration of at least one semester full-time (or part-time equivalent); or a bachelor degree from RMIT with first class honours or upper second class honours (or another award as deemed equivalent); and such qualifications or experience as RMIT considers appropriate.
Note: Some programs may require evidence of other qualifications or experience. Refer to the contact listed under individual program entries before applying.

Applying
Application for candidature involves three steps. A brief outline is below. Contact the School of Graduate Research for detailed information.

1. Find a program and confirm eligibility
The entry requirements for each program are listed in this publication. To discuss your eligibility, contact the RMIT staff member listed under individual program entries.

2. Seek academic advice
Once you have decided on the higher degree by research (HDR) you are interested in, you should discuss potential research topics, the availability of suitable supervisors, and an initial research proposal directly with your prospective supervisors and/or the HDR coordinator in the relevant School.
www.rmit.edu.au/graduateresearch/searchsupervisors

3. Complete and submit the application form and supporting documents
If you fit one of the following categories of applicants for higher degree by research places and key scholarship(s), then you can apply through the School of Graduate Research:
» Australian Citizens
» Australian Permanent Residents and New Zealand Citizens
» Offshore International Students—you will be studying outside of Australia and do not fall into any of the above categories.
www.rmit.edu.au/graduateresearch/application

All other applicants are considered Onshore International Applicants and must apply through RMIT’s International Services division.
www.rmit.edu.au/programs/international

International/non-Australian residents
For the latest application procedures, please refer to our website:
www.rmit.edu.au/programs/apply/international
**Money Matters**

### Coursework degrees

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

#### Full-fee place

Full-fee students are required to pay the complete cost of their program. The fees vary according to each program and are adjusted on an annual basis. They are listed under each program in this booklet.

#### FEE-HELP

Australian citizens or holders of a permanent humanitarian visa are eligible to apply for a FEE-HELP loan for full-fee places. FEE-HELP enables eligible students to obtain a loan from the Australian Government to pay all or part of their tuition fees. The Government pays the amount of the loan directly to the student’s institution. Students repay their loan through the taxation system once their income reaches the minimum threshold for compulsory repayment. 

**www.goingtouni.gov.au**

### Commonwealth supported places (CSP)

A Commonwealth supported place (CSP) is a place at uni where the fee is subsidised by the Australian Government. Your share of the fee is calculated according to the interest area you are studying. The following table shows a student’s annual share of the fee for full-time study in 2012.

<table>
<thead>
<tr>
<th>Your Interest Area</th>
<th>Your Share of Fee for Full-time Studies Commenced in 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics, science, statistics</td>
<td>$4520 p.a.</td>
</tr>
<tr>
<td>Humanities, behavioural science, social studies, education, clinical psychology, foreign languages, visual and performing arts, nursing</td>
<td>$5648 p.a. (Band 1)</td>
</tr>
<tr>
<td>Computing, built environment, allied health, other health, engineering, surveying, agriculture</td>
<td>$8050 p.a. (Band 2)</td>
</tr>
<tr>
<td>Accounting, administration, economics, commerce, dentistry, medicine, law, veterinary science</td>
<td>$9425 p.a. (Band 3)</td>
</tr>
</tbody>
</table>

Students who undertake more or less than a full-time study load, or who study courses from a combination of the above categories, will be charged the proportionate student contribution. 

**www.rmit.edu.au/programs/fees**

Confirmation of fees for 2012 can be obtained from Info Corner on tel. 03 9925 2260.

### Postgraduate Coursework Commonwealth Supported Equity Places

RMIT has a limited number of Commonwealth supported places (CSP) in postgraduate coursework programs for applicants who meet entrance and equity criteria. Instead of paying full-fees, the CSP equity place allows eligible students to complete their program with a choice of up-front, partial up-front or deferred payment options. These places are available in any program. 

**www.rmit.edu.au/programs/apply/equity**

### Research degrees

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

RMIT also offers research places on a fee-paying basis. For more information on fee-paying places please contact the relevant RMIT school to which you are applying. Program fees may vary according to the courses chosen and fees are invoiced on a semester basis. 

**www.rmit.edu.au/programs/fees**

Acceptance in a HDR place is very competitive and places are granted on the condition that you meet annual 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**

### Material fees

In addition to tuition fees, you may be required to purchase items related to your program, including field trips and excursions, specified textbooks and equipment. These fees are not compulsory and students may choose to purchase these items independently. These expenses vary from program to program. Please check individual program brochures or contact the relevant school directly.

### Annual increase of full-fees

RMIT reserves the right to adjust fees 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, and so the actual fee increase may exceed 7.5%.

### Financial assistance

#### Scholarships

Various scholarship opportunities exist for eligible master and PhD students. For scholarship details and eligibility criteria, visit **www.rmit.edu.au/scholarships**.

#### Income tax deductions

Australian students may be eligible to apply for income tax deductions relating to the education expenses that are linked to their employment. Students should check with an accredited taxation accountant/consultant as to their eligibility for possible deductions. The Australian Taxation Office (ATO) website may also be useful. For further information, visit **www.ato.gov.au**

### International/non-Australian residents only

For the latest fee information, please refer to our website: 

**www.international.rmit.edu.au/info/programfees.asp**