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

You’ll focus on technical areas of electrical engineering, including:
- renewable energy
- high-voltage systems
- power transmission and distribution
- building services
- industry control and automation.

You’ll gain leading-edge knowledge and skills in power engineering with effective business skills in communication, teamwork and management.

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.

The program is suitable for both electrical engineering graduates looking for specialist knowledge in the latest power engineering technologies and graduates from another discipline seeking a career change.

Learning and teaching

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

RMIT offers a variety of learning and teaching approaches including lectures, seminars, workshops, presentations, group discussions and syndicate work.

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

Ongoing assessment throughout the semester includes examinations, essays, reports, oral classes, presentations, group projects, laboratory projects and practical assignments.

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.

Industry connections

Industry plays a vital role in the development, delivery and review of the program through membership of the 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 industry-sponsored student design projects.

Notable industry links for this program are:
- API (Australian Power Institute)
- AEMO (Australian Energy Market Operator)
- United Energy
- AusNet Services
- Jemena
- Wilson Transformer Company
- Schneider Electric
- Analog Devices Australia.

Career outlook

Graduates can 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.

www.rmit.edu.au/programs/mc235
Master of Engineering (Electrical Engineering)

Program structure

The Master consists of 192 credit points.

After completing 96 credit points of study approved by the Program Manager, you may exit with a graduate diploma.

During this program you'll:
– 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 1
You'll 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'll be expected to act in more than one role in the team at different times to expand your experience and capabilities.

Complete the following core courses:
– Renewable Electrical Energy Systems
– Protection and High Voltage Engineering
– Electrical Energy Conversion
– Advanced Control Systems (PG)
– Professional Engineering Project Part A
– Professional Engineering Project Part B
– Project Preparation, Planning and Problem Solving

And complete one program elective (see list).

Year 2
You'll undertake the Professional Engineering Advanced Project. You'll spend two semesters working on an individual project to further develop your research, design and project managing skills. Some projects include the opportunity to work within the local engineering industry.

These courses provide a realistic work situation, 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.

Option A: complete the following:
– Research Project
– Research Project Part 1

And complete four of the following:
– Variable Speed Drives
– Power System Analysis and Control
– Real Time Estimation and Control
– Power Electronic Converters
– Electrical Transport Engineering
– Industrial Automation
– Advanced Power Systems

Or

Option B: complete the following:
– Professional Engineering Advanced Project Part A
– Professional Engineering Advanced Project Part B

And complete four of the following:
– Variable Speed Drives
– Power System Analysis and Control
– Real Time Estimation and Control
– Power Electronic Converters
– Electrical Transport Engineering
– Industrial Automation
– Advanced Power Systems

And complete one program elective (see list).
Elective list

- Digital Signal Processing
- Optical Fibre Systems and Networks (PG)
- Antennas for Mobile and Satellite Communications (PG)
- Optical Fibre Technology (PG)
- Satellite Communication Systems Engineering (PG)
- Mobile and Personal Communication Systems Engineering (PG)
- Network Access Systems (PG)
- Network Services and Internet Applications (PG)
- Image Systems Engineering
- Real Time Systems Design
- Electronic Manufacturing (PG)
- Audio Engineering (PG)
- Sensors and Measurement Technologies
- Medical Engineering andInstrumentation (PG)
- Circuit and System Simulation (PG)
- Signal Processing for Multimedia and Telemedicine
- Design With Hardware Description Languages
- Project Management and Entrepreneurship (PG)
- Micro-Nano Systems, MEMS and NEMS
- Numerical Analysis of Electronic Devices
- Semiconductor Device Fabrication (PG)
- Electronic Materials
- Real Time Estimation and Control
- Smart Embedded Systems
- Network Engineering
- RF and Microwave Circuits
- Radar Systems
- Radar Systems 2
- Computer Robotics Control
- Intelligent Systems
- Network Design and Performance
- Bioelectromagnetism
- Biosignal Processing and Computing
- Variable Speed Drives
- Power System Analysis and Control
- Introduction to Electrical Building Design
- Industrial Automation
- Switched Mode Power Supplies
- Advanced Power Systems
- Power Electronic Converters
- Electrical Transport Engineering
Master of Engineering (Electrical Engineering)

Entry requirements

- An Australian bachelor degree with a 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 of 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).

Please note: AQF exemptions cannot be used to exit with a Graduate Diploma.

Credit and exemptions

If you have successfully completed one of the following qualifications majoring in engineering you will be eligible for exemptions as follows:

<table>
<thead>
<tr>
<th>Qualification level</th>
<th>Exemptions</th>
<th>Remaining program duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Engineeri...</td>
<td>Up to 48 credit points (equivalent to one semester of full-time study)</td>
<td>144 credit points (equivalent to three semesters of full-time study)</td>
</tr>
<tr>
<td>Graduate Certificate...</td>
<td>Up to 48 credit points (equivalent to one semester of full-time study)</td>
<td>144 credit points (equivalent to three semesters of full-time study)</td>
</tr>
<tr>
<td>Bachelor of Engineering...</td>
<td>Up to 96 credit points (equivalent to two semesters of full-time study)</td>
<td>96 credit points (equivalent to two semesters of full-time study)</td>
</tr>
<tr>
<td>Graduate Diploma in the...</td>
<td>Up to 96 credit points (equivalent to two semesters of full-time study)</td>
<td>96 credit points (equivalent to two semesters of full-time study)</td>
</tr>
</tbody>
</table>

This information is designed for Australian and New Zealand citizens and permanent residents of Australia.

Disclaimer: Every effort has been made to ensure the information contained in this publication is accurate and current at the date of printing. For the most up-to-date information, please refer to the RMIT University website before lodging your application. Visit www.rmit.edu.au