Master of Engineering (Telecommunication and Network Engineering)

Develop your knowledge and skills in telecommunication and network engineering that will enhance your career prospects.

This program enables you to develop expertise in the analysis, design, implementation and operation of telecommunication devices, systems, networks and services.

You’ll have the opportunity to enhance your professional skills in research by undertaking a major research project in your final year.

Rapid developments in global telecommunication and network technologies present exciting career opportunities for graduates of this program. Graduates will have enhanced career prospects in relevant industries including aerospace, electronics, networks, communications, telecommunication and defence industries.

Learning and teaching

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, research 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 enhance research, teamwork, leadership, communication and project management skills.

You will have the opportunity to use state-of-the-art facilities in the areas of communications systems, RF and microwave circuits and antennas, networks and software-defined networks to support the relevant teaching and learning activities. You will also have access to a wide range of simulation software that represents current industry practice. This ensures that you have access to modern computers and equipment that you are likely to use in industry.

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 Communications Industry Association)
- ITC Global
- RFS (Radio Frequency Systems)
- Juniper Networks
- Google
- JRD Communications Pty Ltd
- Microchip Australia Pty Ltd
- TE Connectivity
- National Instruments
- Analog Devices Australia
- DSTG (Defence Science and Technology Group)
- BAE Systems
- Engineers Australia
- IEEE (Institute of Electrical and Electronics Engineers)
- IET (Institution of Engineering and Technology).
Career outlook

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:

- telecommunication
- networking
- transportation
- security
- defence
- health
- education
- emergency services
- environment protection.

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

Program structure

This Master program consists of 192 credit points. It also incorporates a Graduate Diploma program (96 credit points).

The program strongly links formal learning with professional practice. In this program you’ll undertake structured activities that enable you to learn, apply and demonstrate your professional skills. You’ll carry out these activities in real-work contexts or situations.

These activities and their work context provide a distinctive source of feedback to assist your learning. Any or all of these aspects of a work-integrated learning (WIL) experience may be simulated.

**Year 1**

Complete the following three core courses:

- Professional Engineering Project Part A
- Professional Engineering Project Part B
- Project Preparation, Planning and Problem Solving

These three courses work together in introducing you to engineering research projects. They allow you to refine your analytical and practical design capabilities and apply those skills to well-defined projects of current engineering relevance. A prototype of the finished design will be built, tested and evaluated.

And complete two courses from the course options (see list on next page)

And complete three courses from the following:

- 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
- Advanced Control Systems (PG)
- Audio Engineering (PG)
- Sensors and Measurement Technologies
- Medical Engineering and Instrumentation (PG)
- Circuit and System Simulation (PG)
- Signal Processing for Multimedia and Telemedicine
- Telecommunication Engineering Project
- Telecommunication Engineering 1
- Telecommunication Engineering 2
- Telecommunication Engineering 3
- Telecommunication Engineering 4
- Digital System Design (PG)
- Micro-Nano Systems, MEMS and NEMS
- Semiconductor Device Fabrication (PG)
– Project Management & Entrepreneurship (PG)
– Numerical Analysis of Electronic Devices
– Electronic Materials
– Real Time Estimation and Control
– Smart Embedded Systems
– Network Engineering
– Enterprise and Cloud Networks
– Network Management and Software Defined Networks
– Design With Hardware Description Languages
– RF and Microwave Circuits
– Radar Systems
– Radar Systems 2
– Computer Robotics Control
– Network Design and Performance
– Bioelectromagnetism
– Biosignal Processing and Computing
– Renewable Electrical Energy Systems
– Electrical Energy Conversion
– Professional Engineering Project Part A
– Professional Engineering Project Part B
– Wireless Sensor Networks
– Electronic Systems for Automotive Applications
– Mobile Computing
– Engineering Project Design & Management
– Computer and Network Security
– Introduction to Statistics.

Year 2 – Option A
Complete
– Research Project
OR
– Research Project Part 1
– Research Project Part 2
AND
Complete four courses from the course options (see list).

Year 2 – Option B
Complete
– Professional Engineering Advanced Project Part A
– Professional Engineering Advanced Project Part B
AND
Complete six courses from the course options (see list).

Course options
– 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)
Successful completion of an Australian bachelor degree in science or engineering in computer, electronic, telecommunication or electrical disciplines, or relevant industrial experience as a qualified technologist.

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

### How to apply

Direct to RMIT University: rmit.edu.au/programs/apply/direct

**Semester 1, 2017**
- Applications open 14 August 2016
- Timely applications close 10 November 2016

**Semester 2, 2017**
- Applications open 1 May 2017
- Timely applications close 31 May 2017

Late applications will continue to be accepted after this date if places are still available.

### Entry requirements

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 Engineering in the same discipline (AQF level 7 or equivalent)</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 in the same discipline</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 (Honours) in the same discipline (AQF level 8 or equivalent)</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 same discipline</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>

Fees shown above apply to 2017 only and are based on an annual full-time study load of 96 credit points unless otherwise noted. A proportionate fee applies for more or less than the full-time study load. Tuition fees are adjusted on an annual basis and these fees should only be used as a guide.

For more information and to learn how to calculate your exact tuition fees see: rmit.edu.au/programs/fees/postgraduate

### Fee details

- Commonwealth supported places (CSPs) range from AU$6,349 to AU$10,596
- Full-fee: AU$29,760 per annum

How much you’ll pay will depend on whether you’re offered a Commonwealth supported place or a full-fee place. Entry for this program is primarily through CSPs. Government financial assistance is available to eligible students regardless of the type of place you enrol in.

### Credit and exemptions

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

- Bachelor of Engineering in the same discipline (AQF level 7 or equivalent)
  - Up to 48 credit points (equivalent to one semester of full-time study)
  - Confidential

- Graduate Certificate in the same discipline
  - Up to 48 credit points (equivalent to one semester of full-time study)
  - Confidential

- Bachelor of Engineering (Honours) in the same discipline (AQF level 8 or equivalent)
  - Up to 96 credit points (equivalent to two semesters of full-time study)
  - Confidential

- Graduate Diploma in the same discipline
  - Up to 96 credit points (equivalent to two semesters of full-time study)
  - Confidential

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.

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