Master of Information Technology

The program offers a range of options to develop your information and communications technology (ICT) skills and knowledge. You’ll apply cutting-edge technology to provide solutions for business, government, health and social services.

The program caters to students with a major in IT as well as those with minimal programming experience.

You will learn fundamental, adaptable and technical skills that can be applied to a range of platforms, with future-proof knowledge in key areas such as algorithms and analysis, data mining, cloud computing and programming language design.

You will specialise in one of these industry-focused areas:
- big data management
- cloud computing
- mobile computing
- security
- software architecture
- web systems and search technology.

You’ll also have the chance to apply for an industry project at the forefront of technological innovation.

Learning and teaching
RMIT is committed to providing students with an education that strongly links formal learning with workplace experience.

You will learn through a broad mix of study modes including lectures, tutorials, practical classes, project work and seminars using face-to-face, online and other flexible delivery mechanisms.

You will have access to specialised computer laboratories both for use during scheduled classes and outside scheduled class times. These laboratories provide access to a range of computer environments including a variety of database products under different operating systems.

Industry connections
Our industry connections ensure that program content meets the requirements of employers and matches market trends.

You will have the chance to apply to undertake an industry project.

Career outlook
With continuing ICT skills shortages, you’ll be well placed to secure rewarding roles worldwide, whatever your specialisation. With transferrable theoretical and technical skills, you’ll be much sought-after by industry, with careers available in areas including cloud computing, web and mobile app development, eHealth, and emergency services and GPS technology.

Depending on your specialisation possible careers include:
- **Big data management**: data analyst; data mining specialist; data centre manager; data quality engineer; knowledge engineer; big data tech lead; database specialist; research analyst; information architect; Hadoop architect/developer; business intelligence expert.
- **Cloud computing**: cloud solution architect; IaaS architect/developer; SaaS architect/developer; Hadoop specialist; cloud and big data specialist.
- **Mobile computing**: Android, iPhone, Windows mobile applications development; mobile games architect/developer; mobile architect/mobile software platform architect; mobile security expert; mobile application tech lead; IT infrastructure manager.
- **Security**: information security specialist; information assurance professional; computer systems auditor; information consultant; information manager, with potential to progress to a role as a researcher in information security.
- **Software architecture**: business analyst; electronic commerce developer; internet professional; multimedia design; systems design; software design; systems management; applications and analyst programming; senior programmer; software engineer; systems programmer; system architect; IT architect; software architect; or enterprise architect.
- **Web systems and search technology**: web information architect; web security analyst; web application architect/tech lead, developer; web content manager; webmaster.

Professional recognition
This program is accredited at the professional level by the Australian Computer Society, which accredits Information and communication technology related programs that are offered by Australian universities both onshore and offshore.

www.rmit.edu.au/programs/mc208
Program structure

The Master degree consists of 192 credit points.

This includes four foundation courses, advanced information technology core courses, four courses from your area or areas of specialisation, one program elective (or an additional specialisation course) and a software engineering project.

Choose from the following specialisations:

Big data management

The world is facing an information overload thanks to the profusion of data from a diverse and growing range of new and evolving sources, including social media, mobile devices, cameras and many more.

While the technological capacity to store information doubles every 3 years, 2.5 quintillion bytes of data were created each day in 2012, producing collections of data sets that are becoming too large and complex for the capabilities of existing database management tools and traditional data processing applications.

You’ll learn to manage the challenges of big data and exploit its potential – capture, curation, storage, search, sharing, transfer, analysis and visualisation.

Analysis of big data can lead to key organisational insights such as identifying business trends and determining research quality, which in turn can be applied to diverse areas and projects such as delivering preventive healthcare or linking legal citations to combat crime.

Cloud computing

Cloud computing allows computing tasks such as running applications and storing data to be carried out remotely.

The opportunity to exploit the potential economies of scale, while creating efficiencies and cost savings has given great impetus to cloud computing. You’ll gain insights into cloud computing systems, including Google AppEngine, Microsoft Azure, Yahoo’s Hadoop, Google’s MapReduce, Amazon EC2 and S3.

Mobile computing

With mobile technologies facilitating advances in communications, finance, and information exchange and sharing, we’ve only just begun to explore the potential for this technology.

As a platform for creating key applications for industry, government and commerce, the demand for skill sets in mobile computing systems is sure to grow, especially given the growth in internet and web-based systems.

You’ll develop skills in the key areas in mobile computing including mobile software, mobile hardware, and mobile communication and security.

Security

At all levels, critical infrastructure relies upon information and database systems to store, process and exchange information.

Organisations with diverse functions collect, process and store vast amounts of confidential information about employees, customers, products, research and more, on computers and database systems.

Consequently, the security of this data, whether in banks or transport networks, telecommunications or utilities, has become vitally important.

You’ll develop technical and management skills to enhance security in computer systems. This is applicable to organisations whose functions are varied, such as governments, the military, corporations, hospitals, financial institutions, universities or private businesses.

Software architecture

Software architects oversee the high-level design and structure of the ICT systems that underpin the infrastructure of an organisation.

With the accelerating growth and evolution in the technologies available for developing software applications and systems, greater efficiency and flexibility will be in high demand in organisations of all sizes.

You’ll develop a greater understanding of the high-level design and structure of the ICT systems that underpin the infrastructure of an organisation. You’ll gain expertise in advanced software development techniques and technologies, exploiting modern development environments and languages and balancing a range of usability issues when designing solutions.

Web systems and search technology

The explosion of web resources and internet applications presents us with unprecedented choice and opportunity; however searching and deciding on what to use, choose or lose is becoming more difficult.

More than ever web users need more sophisticated search technologies and effective and efficient tools for locating, managing and exchanging all sorts of information, including documents, pictures and other structured and unstructured data.

You’ll learn about the design and implementation of search engines, search engine optimisation, structured and unstructured information management and web services.

Courses

Core courses

- Programming Fundamentals
- Software Engineering Fundamentals
- Database Concepts
- Advanced Programming
- Usability Engineering
- Advanced Professional Development
- Software Engineering Project Management
- Algorithms and Analysis
Specialisation courses
- Advanced Topics in Artificial Intelligence
- Advanced Topics in Distributed Systems and Networks
- Advanced Topics in Search Technology
- Advanced Topics in Software Engineering
- Big Data Infrastructures
- Big Data Processing
- Cloud Computing
- Cloud Infrastructures
- Cloud Security
- Computer and Internet Forensics
- Cryptography and Security
- Data Mining
- Database Systems
- Foundations Distributed Computing
- Games and Artificial Intelligence Techniques
- IPhone Software Engineering
- Information Retrieval
- Intelligent Web Systems
- Internet and Intranet Document Engineering
- Knowledge and Data Warehousing
- Mobile Application Development
- Object Oriented Software Design
- Secure Electronic Commerce
- Network Programming
- Software Requirements Engineering
- Systems Architecture
- Web Services

Program electives
- Advanced Programming Techniques
- Artificial Intelligence
- Broadcast Networks and Applications
- Database Administration
- Data Communication and Net-Centric Computing
- Digital Media Computing
- Document Markup Languages
- Electronic Commerce and Enterprise Systems
- Game Mechanics and Game Play Programming
- IPhone Software Engineering
- Mobile Application Development
- Scripting Language Programming
- Software Architecture: Design and Implementation
- Software Testing
- Unix Systems Administration and Programming (Linux)
- Web Database Applications
- Web Development Technologies
- Web Programming
- Web Servers and Web Technology
- Accounting for Management Decisions
- Corporate Finance
- Financial Statement Analysis
- Risk Analysis and Assessment
- Economic Analysis for Business
- Marketing Management
- Supply Chain Principles
- eBusiness Supply Chains

Capstone courses
Project Stream A – complete the following course:
Software Engineering Postgraduate Project
OR
Project Stream B – complete the following two courses:
Postgraduate Software Engineering Project Part A
Postgraduate Software Engineering Project Part B
Master of Information Technology

How to apply

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

Application dates 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.

Credit and exemptions

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

If you have completed one of the following qualifications majoring in software engineering, computer science or information technology, subject to RMIT RPL policy and AQF Volume of Learning requirements, you will be eligible for exemptions as follows (see table):

<table>
<thead>
<tr>
<th>Qualification level</th>
<th>Exemptions</th>
<th>Remaining program duration</th>
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<tbody>
<tr>
<td>Bachelor of Software Engineering, Bachelor of Computer Science, or Bachelor of Information Technology</td>
<td>Up to 48 credit points (equivalent to one semester of full-time study)</td>
<td>Minimum of 144 credit points (equivalent to three semesters of full-time study)</td>
</tr>
<tr>
<td>Bachelor of Computer Science (Honours)</td>
<td>Up to 96 credit points (equivalent to two semesters of full-time study)</td>
<td>Minimum of 96 credit points (equivalent to two semesters of full-time study)</td>
</tr>
<tr>
<td>[Cognate] Graduate Diploma in Software Engineering or Computer Science, which require the completion of a Bachelors Degree in Software Engineering or Computer Science as the entry requirement</td>
<td>Up to 96 credit points (equivalent to two semesters of full-time study)</td>
<td>Minimum of 96 credit points (equivalent to two semesters of full-time study)</td>
</tr>
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Fees

2017 indicative fees

The annual tuition fee for full-fee places in 2017 is AU$24,000.

This program is offered on a full-fee paying basis only. If you are offered a place, you will need to pay the full tuition costs of your program. However, eligible students (such as Australian citizens or holders of an Australian permanent humanitarian visa) may apply to defer payment of some or all of their tuition fees via the Commonwealth Government’s FEE-HELP loan scheme.

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

Entry requirements

You must have one of the following:
– A bachelor degree in any discipline; or
– A minimum of five years of relevant work experience in programming (web, application, database); software engineering; system, functional or business analysis; information, system or enterprise architecture; ICT management; administration (network, systems) support (desktop, helpdesk, system); web design/media; business information systems or information systems.