

# MASTER OF INFORMATION TECHNOLOGY (PROFESSIONAL COMPUTING)

[swinburne.edu.au/sydney](https://swinburne.edu.au/sydney)

The Master of Information Technology (Professional Computing) provides students with theoretical knowledge and practical skills related to the design, construction, operation, support and maintenance of information technology (IT) solutions. The course introduces students to state-of-the-art techniques used in the design and construction of IT solutions, as well as the research skills needed to assess the effectiveness of a solution or technology. It also offers students specialist skills to work with system security and anti-hacking solutions at an advanced level.

## COURSE SNAPSHOT

**Duration:** Two years full-time

**Location:** Sydney

**Intake:** January, May, September

**Fee:** A\$26,070 (annual fee for 2020)\*

\*Fees displayed are relevant to 2020 and are subject to annual review. Fees are based on a student's study load in each semester. Please see website for more information.

## INTERNSHIP OPPORTUNITIES

Students in this course can apply to undertake an internship as an elective unit. Internships offer students a valuable opportunity to apply practical skills and theoretical knowledge in the workplace during their final semester. Projects may include system design and development, research and development projects, business analysis, testing and IT and network support. Internships are unpaid.

## ENTRY REQUIREMENTS

- A recognised bachelor degree in information technology
- English language proficiency (please see website for details).

## SCHOLARSHIP OPPORTUNITIES

Scholarships are available for selected students who apply for and begin this two-year master by coursework program. For more on scholarships, visit [swinburne.edu.au/international/scholarships](https://swinburne.edu.au/international/scholarships)

## WHY SWINBURNE?

A world-ranked university, Swinburne is focused on creating career-ready professionals who regularly find employment with the world's best companies, including IBM, Mercedes-Benz, Siemens, PricewaterhouseCoopers, and more.

Swinburne is proud to be recognised as one of the world's top universities by being ranked number 45 in the 2019 QS Top 50 Under 50.

Swinburne Sydney is situated in Parramatta, just 30 minutes by train from Sydney's city centre. Parramatta is a major business and commercial centre bustling with retail shops and global eateries.

With a wide range of arts and cultural events, it offers the perfect lifestyle for young professionals and families.

With high-quality teaching and research, state-of-the-art facilities, student accommodation options and a range of support services, Swinburne Sydney is the ideal choice for students.

## INDUSTRY CONNECTIONS

For over 50 years, Swinburne University of Technology has been partnering with leading organisations to offer students practical learning and authentic workplace experiences. Our postgraduate programs are co-designed with industry, and many of our students undertake industry-linked projects, or projects with their own employers, as part of their studies.

## COURSE OVERVIEW

You must complete the following units of study:

- 2 IT core units (25 credit points)
- 8 specialisation units (100 credit points)
- 2 IT elective units (25 credit points)

### Core IT units

#### Strategic Project Management

Examines the concepts, issues and challenges that are critical for implementing, maintaining and completing projects successfully. The reasons why organisations are moving towards a project approach and the common methodologies, tools and techniques of project management are critically evaluated. Students will look at how an organisation's individual industry culture, structure and objectives, may influence the project management approach, as well as the risks and challenges that emerge in project management.

#### User-Centred Design

Analyse and articulate how technology can be used to assist business, without the technology becoming an end in itself. Develop an appreciation for the importance of information to decision-making and how to provide such information to ensure its usefulness to the decision-makers. Gain a strong foundation of business systems fundamentals, to be able to evaluate the influence of the Internet on business stakeholders, customers, suppliers, manufacturers, service makers, regulators, managers and employees.

### Specialisation

#### System Security and Anti-Hacking

Learn how to safeguard against cyber-attacks and keep your data and information safe.

### Units of study

#### Object-Oriented Programming

This unit of study aims to introduce students to structured programming and design. Students will be able to: explain the principles of the object-oriented programming paradigm, design, develop, test, and debug programs using object-oriented principles, select and use appropriate collection classes, to manage collections of multiple objects, construct

appropriate diagrams and textual descriptions, apply accepted good practices in construction of object-oriented programs, independently research topics in object-oriented programming and program structure.

#### Internet Security

Students who complete this unit of study will understand the nature of security threats to IT systems, and be aware of deficiencies in modern software systems. They will understand how to manage the security of computer networks. Students will be familiar with the tools used by hackers and crackers and understand ways of identifying and rectifying security breaches and be able to collect digital evidence.

#### IS/IT Risk Management

This unit provides insights into critical Information System (IS)/Information Technology (IT) and Information Security risk, as well as the corresponding security management issues facing business managers in the effective use of Information Technology in contemporary organisations. In addition, the unit fosters a robust understanding of, and develops the skills required to adopt and implement an effective risk management strategy in line with the industry best practice in IS/IT Risk Management.

#### Network Administration

To build the understanding and skills required to design, configure and manage a single domain network. Students will learn how to: apply the OSI model and the TCP/IP model in networking, explain IP networking protocol, routing and transition to IPv6, plan an IP addressing strategy and automated configuration with DHCP, design, install and maintain secure Windows systems, perform user and domain resource management, monitor system quality, plan risk management and disaster recovery strategies.

#### Secure Networks

The aim of this unit is to examine security aspect relating to data networking infrastructure. Students will be able to: assess network and computer security risks, apply accepted network security tools and methodologies to assess potential issues and/or threats, generate secure configurations to protect services deployed

on network servers, appraise various privacy issues and how they relate to common security practices and design and deploy an Intrusion Detection System.

#### Enterprise Network Server Administration

In this unit, students establish the skills and understanding required to design and configure a Windows Server based enterprise network.

#### Applied Research Methods

Describe the characteristic features of real-world research methods and debate their relative merits, compare, evaluate and select suitable research methods, make decisions based on social, culture and ethical issues, research the literature, compare viewpoints and identify gaps in knowledge, interpret and critically evaluate previously published material in a formal literature review.

#### Applied Research Projects

Students learn to: select appropriate technologies and sources of information to evaluate solutions in the context of a capstone project, develop a research project outcome in a project team environment, reflect on the challenges of performing scholarly and applied research, demonstrate an awareness of ethical and professional behaviours in an organisational context and understand the relationship between theory and practical application.

#### IT elective units\*

- Networks and Switching
- Data Communications and Security
- Internship Project

\*Choose two units from the following electives. Elective units are still to be finalised.

### CAREER OUTCOMES

This course provides graduates with the knowledge and skills they need to seek professional work at an advanced level in the field of information and communication technologies (ICT). It also offers graduates a pathway to research and further learning.

Graduates may find employment as IT security consultants, information security analysts or anti-hacking system managers.



### HOW TO APPLY

You can submit an online application directly to Swinburne Sydney or through an authorised representative in your country.

[swinburne.edu.au/sydney](http://swinburne.edu.au/sydney)

### MORE INFORMATION

Submit an online enquiry  
From Australia: 1800 595 333  
International: +61 2 9160 7788  
sydneyinfo@swin.edu.au  
1-3 Fitzwilliam St, Parramatta NSW 2150