

Master of Science (Network Systems)

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The Master of Science (Network Systems) is designed to help students develop theoretical knowledge and practical skills in network design, deployment of large-scale networks, and the security and protection of networked and computer systems.

The course focuses on practical aspects of network design and the deployment of networking technologies. Students learn about network and computer security using both theoretical studies and practical examples. This degree also covers the content of various professional certifications.

Students in this course also develop the research skills needed to assess the effectiveness of a networking technology or solution. These acquired skills and knowledge are consolidated in a major project in the final year.

Course snapshot

Duration	Two years full-time
Campus	Hawthorn (Melbourne)
Fees	A\$26,070 (annual for 2020)*
Accreditation	This course is accredited by the Australian Computer Society.
Intakes	March, August

*Fees displayed are relevant to 2019 and are subject to annual review. Fees are based on a student's study load in each semester. Please see website for more.

Career outcomes

Industry-certified skills are highly valued, and there is a need for professionals with a solid understanding of the design, management and maintenance of modern networks. Graduates will be equipped with practical and theoretical skills to gain access to a career as a network specialist, internet applications engineer, manager of internal corporate networks and security engineer.

Entry requirements

- A recognised bachelor degree in engineering, science or information technology
- English language proficiency (please see website for details)

Scholarship opportunities

Scholarships of up to \$2,500 is 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

Why Swinburne?

A world-ranked university in Melbourne, Australia, Swinburne is focused on creating careers. Upon graduation, our students are career-ready professionals who regularly find employment with the world's best companies, including PricewaterhouseCoopers, IBM, Siemens, Mercedes-Benz and more.

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

Situated in Hawthorn, just ten minutes by train from Melbourne's city centre, Swinburne boasts shops, cafes and a train station right on its doorstep. With high-quality teaching and research, state-of-the-art facilities, student accommodation options and a range of support services, Swinburne 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.



"Swinburne provides a hands-on approach to learning. The laboratories on campus are some of the best I've worked in – we built networks, broke networks and fixed problems with networks within these labs. It is because of the practical skills that I learned in this course that I was able to get a job straight after graduation as a Senior Training Officer for the Asia Pacific Region at APNIC, one of five authorities in the world that provides and administers IP addresses."

Tashi Phuntsho

Master of Science (Network Systems)

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Course overview

Students must complete units of study as follows:

- 7 network systems core units (as below)
- 4 specialisation units (choose your specialisation)
- 1 network systems elective unit

Core network systems units of study

- Introduction to Network Programming
- Networks and Switching
- Creating Web Applications and Databases
- Network Routing Principles
- Secure Networks
- Applied Research Methods
- Applied Research Project

Specialisations

Advanced Networking

Master the theoretical and practical aspects of networking, including how to project manage the development of a network. Gain the skills required to design, configure and manage a network as well as an in-depth understanding of advanced routing and switching.

Units of study

- Network Administration
- Advanced Routing
- Troubleshooting IP Networks
- Advanced Switching

Career outcomes

Graduates may find employment as a network specialist, internet applications engineer, internal corporate network manager or security engineer.

Cybersecurity

Gain an understanding of security protocols and limitations, and learn how to effectively describe the threats facing modern IT infrastructure. Design and implement network security solutions to keep them secure through encryption methodologies and specialist security algorithms.

Units of study

- Network Administration
- Internet Security
- Advanced Security
- Secure Remote Access Networks

Career outcomes

Graduates may find employment as security consultants, information security analysts or cybersecurity testers.

Future Networks

Gain an in-depth understanding of network traffic, network protocols and best-practice methods to plan effective networks to scale. Learn how to design and implement both wired and wireless networks.

Units of study

- Network Administration
- Design and Management of Networks
- Broadband Multimedia Networks
- Mobile and Personal Networking

Career outcomes

Graduates may find employment as network designers, network or system administrators, IT infrastructure managers or network architects.

Internet of Things

Learn best-practice methodologies for designing, implementing and recording information wirelessly on internet-connected devices. Gain the knowledge and skills to help shape the future of the internet.

Units of study

- Database Analysis and Design
- Mobile and Personal Networking
- Big Data
- Internet for Things (I4T)

Career outcomes

Graduates may find employment as mobile application developers, solution architects, data scientists or full-stack software developers.

Elective units

- Internet Security
- Network Administration
- Database Analysis and Design
- Big Data
- Internet for Things (I4T)
- Design and Management of Networks
- Broadband Multimedia Networks
- Mobile and Personal Networking
- Enterprise Network Server Administration
- Advanced Routing
- Advanced Security
- Advanced Switching
- Secure Remote Access Networks
- Simulation of Networks
- Troubleshooting IP Networks
- Unix for Telecommunications



How to apply

Visit our website for step-by-step application instructions: www.swinburne.edu.au/international/apply/

More information

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