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UNIVERSITY OF
TECHNOLOGY

Telecommunication and Network Engineering

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What is Telecommunication and Network Engineering?

Telecommunication and Network Engineering is primarily concerned with allowing people to communicate information electronically over a variety of media. Telecommunications engineers are capable of developing sophisticated systems such as cellular mobile communication networks, broadband multimedia computer networks, and radio and television broadcasting systems. These systems involve the use of leading edge electronic devices, secure systems and powerful software, so this field should appeal to students who have an interest in these areas.

Career opportunities

The growth in Internet and multimedia services is fuelling employment growth for Telecommunications professionals. Graduates will find rewarding high-tech careers, both in Australia and internationally, in the converging telecommunications, multimedia, computing, and Internet 'information technology' industries. A broad range of employment opportunities exist in the following areas:

- ▶ Designing, installing and commissioning Telecommunications equipment
- ▶ Managing research projects on next generation telecommunication systems
- ▶ Managing and optimising Telecommunication network performance
- ▶ Training technical and engineering professionals in new technologies
- ▶ Network Security and Design
- ▶ Network Analyst, designer or manager
- ▶ Product management and marketing
- ▶ Senior sales management

Typically graduates would work for:

- ▶ Major service providers such as Telstra, Optus AAPT and 3
- ▶ Equipment and System Suppliers such as Nokia, Nortel, Cisco, Alcatel, Ericsson, NEC
- ▶ Consultancy firms such as Deloitte and Mingara Services
- ▶ Australian Government Agencies such as the Department of Defence

Feature degree

Bachelor of Engineering (Telecommunication and Network Engineering)

This course provides an in-depth understanding of the technology directly associated with the Internet, network security and the international telecommunications industry. It encompasses the Internet, local and global digital networking and wireless mobile communication systems for society's advancement towards a technological future.

Whilst studying this course, you will have the opportunity to choose electives that prepare you to obtain both Cisco Systems and Microsoft industry certifications.

Major studies

The Telecommunication and Network Engineering degree at Swinburne provides graduates with skills in telecommunications with specialisation in:

- ▶ Wireless secure communications
- ▶ Advanced level networking with a strong emphasis in security, digital and analogue electronics
- ▶ Software programming and mathematics

Detailed theoretical learning is coupled with extensive practical experience in various aspects of networking and signal analysis used in the telecommunications/networking field. A broad range of electives are also available to suit your interests.

Professional recognition

This degree is fully accredited by Engineers Australia. On completion of the degree students are eligible to apply for graduate membership with Engineers Australia.

Scholarships

Swinburne offers several scholarships that provide a HECS waiver to new students. Vice-Chancellor's Scholarship Program students may select a degree or double degree offered at Swinburne's Hawthorn campus and receive a HECS waiver scholarship for the duration of the degree. Visit www.swinburne.edu.au/scholarships for more information.

International experience

Swinburne offers opportunities to study overseas as part of your degree program. Study tours or IBL placements are available in many locations including Asia, Europe and North America. Visit www.swinburne.edu.au/edabroad

Pathways

A relevant post-secondary qualification may assist your entry into Swinburne's Telecommunication and Network Engineering course. Visit: www.swinburne.edu.au/pathways

Location

Hawthorn campus.

Application procedure

Applications for semester one places must be made through VTAC. Visit www.vtac.edu.au

Mid-year applications are made directly to Swinburne. Visit www.swinburne.edu.au/midyear

Fees

Commonwealth funded places – All students enrolled in higher education courses are required to contribute to the cost of their education. The former Higher Education Contribution Scheme (HECS) has been replaced by HECS-HELP, a loan that helps eligible students to pay their student contribution. Student contributions will vary according to the course and higher education provider. Swinburne prices and student contributions are available at www.swinburne.edu.au/fees

Full fee places – Swinburne offers full fee paying places to domestic undergraduate students. For further information visit www.swinburne.edu.au/fees

An annual General Service Fee is payable to Swinburne.

Postgraduate courses

To find out more about Swinburne postgraduate courses by coursework or research, telephone 1300 368 777 or visit www.swinburne.edu.au/postgrad

International students

If you want to study at Swinburne but are not an Australian resident, telephone Swinburne International on 1800 897 973 (within Australia) or +61 3 8676 7002 (outside Australia) or visit www.swinburne.edu.au/international

Student services

Swinburne provides a range of services to its students including career advice, child care, counselling, employment, equity, finance and housing. For more information visit www.swinburne.edu.au/stuserv

Further information

Telephone: 1300 368 777
Email: info@ict.swinburne.edu.au
Website: www.swinburne.edu.au/ict

Course	VTAC code	Duration	VCE prerequisites
Bachelor of Engineering (Telecommunication and Network Engineering)	34201 (CSP), 34202 (Fee), 34203 (Int. fee)	Four years full-time#	Units 3 and 4 – a study score of at least 20 in English (any) and at least 25 in Mathematical Methods (either) or Specialist Mathematics
Bachelor of Engineering (Telecommunication and Network Engineering)/ Bachelor of Science (Computer Science and Software Engineering)	34191 (CSP), 34192 (Fee), 34193 (Int. fee)	Five years full-time#	Units 3 and 4 – a study score of at least 20 in English (any) and at least 25 in Mathematical Methods (either) or Specialist Mathematics

An optional and additional year of Industry-Based Learning (IBL) may also be available.

Visit: www.swinburne.edu.au/coursefinder for more information on courses and subjects

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Let's get on with it.