The Department of Electrical and Computer Engineering offers a postgraduate Master by coursework in Telecommunications and Networking, focusing on network design, and wired and wireless networks. The course provides specialist knowledge and expertise in areas of current and future importance to the telecommunications industry.

Information and communication technologies are increasingly reshaping global business and many facets of human endeavour. Over the past three decades, there has been significant growth in the communications industry, with a shift from traditional telecommunications to data and wireless communication networks where often thousands of electronic systems are interconnected. While the internet continues to attract much publicity, of greater significance has been the adoption of networks by numerous organisations to support their internal activities. These networks range in complexity, from simple PC networks supporting administration functions, to networks which support manufacturing, research and development, marketing, sale and service activities.

This course provides a fundamental understanding of how these systems work – how to get various locations communicating reliably, and from there how to design and maintain a network. Units range from the very theoretical, developing your complex problem solving skills, to the very practical, hands-on and industry focused. The workload is significant, and in addition to the teaching units, you will undertake a research project culminating in the presentation of a written thesis. This course provides an excellent basis from which to move into a higher research degree such as a PhD.

**CAREER OPPORTUNITIES**
The growth in the telecommunications industry is expected to continue as networks become more complex and more pervasive. While many organisations provide the components for their networks, there is still a strong need for engineering teams to select, configure and implement these components into an effective network which supports their organisation’s objectives.
More About Telecommunications and Networking

Career Opportunities Continued

Equally, there is a need for well-qualified people who can manage, support and evolve existing networks to meet current and future requirements.

This degree adds to the skills gained in an appropriate undergraduate degree, enhancing your ability to further your career and employment opportunities with organisations involved in the design, installation, operation, and management of telecommunication and computer system networks. Graduates also find career opportunities with organisations that provide consultancy and research and development services to the telecommunications industry. It is expected that with the proposed roll-out of the National Broadband Network in Australia, there will be a surge in demand for engineers with a strong background in telecommunications and networking. Prospective employers include public carriers and most large organisations which support their own private networks such as resource companies, retailers, financial institutions and government departments.

Entry Requirements

A Bachelor of Engineering degree in electrical, communications and/or electronics, computer engineering or a related discipline from a recognised university or equivalent. The degree must include topics on circuit theory, linear system theory, computer programming, probability theory and linear algebra.

Location: Bentley

Course Cricsod Code: 042180K

Real World Practice

Graduates of this course are well prepared to apply for CCNA (Cisco Certified Network Associate) accreditation. This widely respected and recognised industry certification program validates the ability to install, configure, operate and troubleshoot medium-sized route and switched networks, including implementation and verification of connections to remote sites in a wide area network.

Graduate Profile

Pavan Maddipati
IP and Networking Engineering
Team Lead, Opticomm Co Pty Ltd

I always wanted to study at a Master level in the Telecommunications field. I thoroughly enjoyed the course and believe a Master qualification is definitely a tool that can help with achieving career aspirations.

I am currently employed as an ‘IP & Networking Engineering Team Lead’ and as a member of the design team, I am involved in the designing, documenting, planning, testing and commissioning of FTTP networks. I am also very proud to have commissioned the first Fibre Access Network (FAN) and Point of Interconnect (POI) sites for the government’s National Broadband Network at Midway Point and Cambridge respectively in Tasmania.

Duration

This fee-paying course is one year full-time or equivalent part-time study. Two intakes are offered each year in February and July.

Course Structure

Year 1 Semester 1
- Digital Communications Engineering 601
- Research Design Project 601
- Stochastic Processes for Telecommunications Systems 601
- Broadband Networks 602

Year 1 Semester 2
- Research Design Project 602
- Telecommunication and Network Management 602
- SELECT 2 OPTIONS
  - Mobile Radio Communications 602
  - Network Design 602
- Information Theory and Error Control Coding 402

International Students

International students studying in Australia on a student visa can only study full-time and there are also specific entry requirements that must be met. Please refer to www.international.curtin.edu.au or phone +61 8 9266 7331 for further information, as some information contained in this publication may not be applicable to international students.

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Full details of the course and units are available by contacting the Future Students Centre or online at: handbook.curtin.edu.au

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