

ENGINEERING

KEY

- 3** Course duration
- G** Geelong Campus at Waurn Ponds
- F** Geelong Waterfront Campus
- B** Melbourne Campus at Burwood
- W** Warrambool Campus
- X** Off campus

81.

GRADUATE DIPLOMA OF ENGINEERING

1 **G** Course code: S650

Admission requirements: Applicants must hold an approved four-year Bachelor of Engineering degree or equivalent. You must have access to the internet, a microcomputer, modem and printer.

The Graduate Diploma of Engineering can be undertaken as a stand-alone qualification or as an early exit point from the Master of Engineering or Master of Engineering (Professional). The course enables you to gain advanced engineering knowledge and skills and develop professional networks in Australia.

COURSE STRUCTURE

The Graduate Diploma of Engineering consists of 8 credit points, including the two common core units and at least four units from a specialisation (see Master of Engineering entry for details). You may exit with the Graduate Certificate of Engineering after successfully completing 4 credit points of study.

MASTER OF ENGINEERING

1.5 **G** Course code: S750

Admission requirements: Applicants must hold an approved four-year Bachelor of Engineering degree or equivalent. You must have access to the internet, a microcomputer, modem and printer.

Deakin's Master of Engineering is tailored to suit your individual career aspirations. You can scale your study up or down to suit your professional needs.

The Master of Engineering aims to ensure that graduates will be technically skilled, have a positive approach to problem-solving, and be equipped to work effectively as part of a team. It was developed to answer the industry need for very capable employees who can start work on complex projects immediately.

The School of Engineering and Information Technology has developed strong industry links in and around Geelong, making it an ideal environment to study.

The program covers the key issues, concepts and knowledge required by industry professionals. Units of study are under constant review so that they are directly relevant to the professional lives of students and graduates.

Deakin's Master of Engineering extends your professional network while upgrading your qualifications.

Engineering specialisations:

- » Electronics and telecommunication
- » IT and telecommunication
- » Mechanical (automotive product development)
- » Water environment

COURSE STRUCTURE

You must successfully complete 12 credit points, including:

Two common core engineering units:

SEB711 Developing and Managing Innovation
SEN752 Engineering Management and the Environment or SIT764 Project Management for Software Development

A 6 credit point specialisation.

And either

4 credit points of approved elective units at level 7

or

Research/professional practice project units:

SEN700 Research Methodology
SEN701/702 Engineering Professional Practice Project 1 and 2
and one approved elective unit at level 7 (from across the University).

MASTER OF ENGINEERING (PROFESSIONAL)

2 **G** Course code: S751

Admission requirements: A four-year Bachelor of Engineering degree or equivalent. Deakin's Master of Engineering (Professional) allows you to specialise and apply advanced technical knowledge and skills in an industrial context.

This two-year course includes a research project that some students will carry out in industry, enabling you to form professional networks, and designed to strengthen, build on and extend your understanding of engineering careers in Australia and overseas.

The course is ideally located at the Geelong Campus at Waurn Ponds, to allow you to study alongside leading researchers based in the Geelong Technology Precinct (GTP) on campus. The GTP is the region's emerging technology hub, housing a range of research and facilities such as the world-leading AMPP research team (Advanced Materials Processing and Performance), nanotechnology, biotechnology and VCAMM (the Victorian Centre for Advanced Materials Manufacturing), and offers a range of services to industry.

The course builds upon Deakin's research expertise in a number of specialised fields of engineering, including: electronics and telecommunication, information technology and telecommunication, water environment, and mechanical engineering, with particular emphasis on automotive product development. The course allows high-performing students to move into PhD studies.

COURSE STRUCTURE

You must complete 16 credit points, comprising common core units (2 credit points), Research/Professional Practice Project units (5 credit points), specialisation (6 credit points), and elective units (3 credit points).

CORE UNITS

SEB711 Developing and Managing Innovation
SEN752 Engineering Management and the Environment
or
SIT764 Project Management for Software Development

RESEARCH/PROFESSIONAL PRACTICE PROJECT UNITS

SEN700 Research Methodology
SEN719 Engineering Research Project 1
and
SEN720 Engineering Research Project 2
or
SEN701 Engineering Professional Practice Project 1
and
SEN702 Engineering Professional Practice Project 2

SPECIALISATIONS

Electronics and Telecommunication

SEE701 Advanced Control Systems
SEE703 Signals and Communication Systems
SEE704 Wireless Communications
SEE706 Digital Signal Processing and Applications
SEE708 Applied Electronics
SIT777 Computer Networks

Information Technology and Telecommunication

SEE703 Signals and Communication Systems
SEE704 Wireless Communications
SEE706 Digital Signal Processing and Applications
SIT735 Cryptography for Secure Communications
SIT777 Computer Networks
SIT784 Mobile and Ubiquitous Computing

Water Environment

SEN711 Environmental System Design
SEN740 Water Treatment Processes and Design
SEN741 Wastewater Treatment Processes and Design
SEN743 Water Resources Engineering
or
SEN763 Water Resources and Society
SEN744 Environmental Systems
SEN745 Wastewater Reclamation and Reuse

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Mechanical (Automotive Product Development)

SEM711 Computer Aided Engineering and Automotive Product Development
 SEM712 Computer Aided Engineering and Finite Element Analysis
 SEM713 Computer Aided Engineering and Computational Fluid Dynamics
 SEM721 Product Development
 SEM731 Automotive Materials
 SEM733 Materials Application for Product Design

ELECTIVE UNITS

Any other approved level 7 units.

COMBINED COURSES

MASTER OF ENGINEERING/MASTER OF BUSINESS ADMINISTRATION (INTERNATIONAL)

2 **B** Course Code: D755

Admission requirements: Students must have normally completed a four-year Bachelor of Engineering degree or equivalent (a grade point of average of 65 per cent or more in the undergraduate degree will normally be required). Applicants who have completed a Graduate Certificate or equivalent in Engineering would also be eligible.

The Master of Engineering/Master of Business Administration (International) provides solid theoretical groundings in both management and engineering practice that will deliver engineering graduates who are articulate, highly skilled and able to meet the future challenges of business. The course covers a broad range of topics relating to all aspects of international organisational management and the development of the creative, analytical and interpersonal capabilities crucial to business leadership.

This combined degree requires students to complete 16 credit points of study over two years of full-time study, or part-time equivalent.

COURSE STRUCTURE

Engineering

Students complete 8 credit points as prescribed below:

SEB711 Developing and Managing Innovation
 SEN752 Engineering Management and the Environment
 or
 SIT764 Project Management for Software Development

A specialisation (comprising 6 credit points) in one of Electronics and Telecommunication or Information Technology and Telecommunication).

Engineering specialisations

Electronics and Telecommunication

SEE701 Advanced Control Systems
 SEE703 Signals and Communication Systems
 SEE704 Wireless Communications
 SEE706 Digital Signal Processing and Applications
 SEE708 Applied Electronics
 SIT777 Computer Networks

Information Technology and Telecommunication

SEE703 Signals and Communication Systems
 SEE704 Wireless Communications
 SEE706 Digital Signal Processing and Applications
 SIT735 Cryptography for Secure Communications
 SIT777 Computer Networks
 SIT784 Mobile and Ubiquitous Computing

Business Administration (International Component)

Students complete 8 credit points of Business Administration study comprising six core units and two units selected from a group of three:

MPA751/MPR751 Financial Reporting and Analysis*
 MPE707 International Banking and Finance
 MPE781 Economics for Managers
 MPK732/MPR732 Marketing Management*
 MPM703 Introduction to Business Strategy
 MPM735 International Business Management

Plus 2 credit points of units from:

MPE711 Global Trade and Markets
 MPK701 Research Design and Analysis
 MPM722/MPR722 Human Resource Management*

*MPR code denotes residential version of unit.

MASTER OF ENGINEERING/MASTER OF INFORMATION TECHNOLOGY

2 **G** Course code: D753

Admission requirements: Applicants must hold an approved four-year Bachelor of Engineering degree or equivalent. You must have access to the internet, a microcomputer, modem and printer.

Deakin's ME/MIT will provide IT skills for engineers while strengthening, building on and extending their knowledge in specific Engineering disciplines.

Graduates will possess a broad knowledge and understanding of the technological aspects of Information Technology and be able to apply advanced Engineering knowledge and skills in an industrial context.

The combined degree will provide opportunities for you to partner with industry and form professional networks.

COURSE STRUCTURE

You must successfully complete units with a total value of 16 credit points, equivalent to two years of full-time study, including the following:

Engineering

Two common core engineering units (SEB711 Developing and Managing Innovation and SEN752 Engineering Management and the Environment or SIT764 Project Management for Software Development)

Six units from an engineering specialisation:

- » Electronics and Telecommunication
- » Information Technology and Telecommunication
- » Water Environment
- » Mechanical (Automotive Product Development)

Information Technology

Four foundation units

SIT771 Object-Oriented Development
 SIT772 Database and Information Retrieval
 SIT773 Systems Analysis and Design
 SIT774 Web and Internet Programming

Four units from an IT specialisation:

- » Network Computing
- » Software Development
- » IT Security