

Associate Degree in Engineering

Open Day will be held on Sunday 15 August 2010, City West campus. Visit unisa.edu.au/openday

Information Sessions will be held at the **Careers Festival**, Sunday 29 August 2010, Mawson Lakes campus.

To register, visit unisa.edu.au/infosessions

Drop-In Times will be available from 6-10 December 2010, from 9.00am – 7.00pm at Campus Central, Mawson Lakes campus.

An additional **Information Session** will be held on Wednesday 15 December, 2010, at 6.30pm, Mawson Lakes campus. To register visit unisa.edu.au/infosessions

SATAC code	N/A
UniSA program code	LTEN
CRICOS code (international students only)	066197C
TER (February 2010 cut-off)	TBA
Program length	2 years
Prerequisites	None
Assumed knowledge	None
Home campus	Mawson Lakes
Accepts Special Entry (STAT)	Yes
External study available	No
Part-time study available	Yes
TAFE credit available	Yes
Honours study available	No
Program fees	Commonwealth supported
Program fees (international students only)	(A\$) \$23,500 per annum
Scholarships available	unisa.edu.au/scholarship

Program overview

In response to the growing need from industry for more skilled engineers, UniSA has developed the Associate Degree in Engineering. This unique pathway program has been designed to allow students who do not have the traditional background of year 12 science and maths to start studying towards a Bachelor of Engineering degree.

Students should have achieved SACE Stage 1 passes, or an equivalent TAFE or other approved qualification, in Mathematics and one Science course.

The successful completion of first year in the Associate Degree program entitles students to transfer into the Engineering program of their choice with credit of at least four courses.

What will I study?

Students study introductory courses in Mathematics, Physics and Chemistry and eight core engineering courses common with the Bachelor of Engineering programs, including Computer Techniques, Engineering Materials, Mathematical Methods for Engineers 1 and 2, Sustainable Engineering Practice, Electrical and Energy Systems, Engineering Design and Innovation and Mechanics and Physics.

The UniSA approach quickly exposes students to the breadth of engineering, its possibilities and, through project-based learning, how it is actually practised in the real world. The program requires students to undertake a number of hands-on engineering projects including participation in the Engineers Without Borders challenge. Students are able to choose engineering electives from the streams of engineering offered at UniSA: Civil Engineering, Electrical and Information Engineering, Mechanical Engineering and in the streams of Materials Engineering, Civil and Project Management, Civil and Transport, Civil and Water Resources Management, Civil and Environment Management, Mechanical and Sustainable Systems and Mechanical and Nanotechnology. The amount of credit received toward an engineering program can be increased by selecting electives in only one stream; for example, selecting electives in only the Civil Engineering stream will give students more credit towards the Bachelor of Civil Engineering program. Alternatively, selecting a number of different engineering electives will give students an opportunity to experience a broader range of engineering disciplines, which will assist with deciding which Bachelor of Engineering program to subsequently enter.

What does it take?

Students should be good problem solvers with a commitment to making a difference to the world around them, and show a passion for understanding new gadgets and technologies. They need to be able to think scientifically,

critically analyse information and have good interpersonal skills.

Entry is available on the basis of successful completion of the ATN Engineering Aptitude Test, which is a multiple choice test assessing aptitude to think scientifically, solve quantitative problems, critically analyse information and display interpersonal understanding. The Test has been developed and is conducted by the Australian Council for Educational Research, and is held annually, usually in September. In addition, students should have achieved SACE Stage 1 passes, or an equivalent TAFE or other approved qualification, in Mathematics and one Science course.

The program is also available to students who have completed Year 12 but have not met the TER or prerequisite and assumed knowledge subjects, or their equivalence, required for admission into the Bachelor of Engineering programs. Alternative entry pathways into the Associate Degree in Engineering are through TAFE Certificate 4 and the Special Tertiary Admissions Test (STAT). Students may receive exemption from the foundation mathematics and science subjects, depending on their Year 12 results in each subject.

Who will employ me?

The intention of the program is to provide a pathway into the accredited Bachelor of Engineering program. Graduates then find employment as engineers in their chosen area of specialisation. An Associate Degree also gives students the skills to work as an engineering officer in industry.

Mechanical, Materials, Civil and Electrical and Information Engineers are in demand nationally and globally and enjoy some of the highest starting salaries of all undergraduate programs.

UniSA graduates are recognised by employers as being industry-ready and have consistently achieved excellent employment outcomes.

Civil Engineers find employment in the construction industry, design consultancies, government agencies or related areas.

Mechanical Engineers work in many different areas including mining, defence, robotics, laser technology and biomedical research as well as a range of manufacturing industries. Electrical and Information Engineers design, research, develop and manufacture a range of products, services and systems - from household appliances to TV and music technology, to our critical power generation and supply.

Program requirements

FIRST YEAR

Essential Mathematics 1:
Algebra and Trigonometry

Sustainable Engineering Practice

Engineering Materials

Introduction to Engineering Physics

Introduction to Engineering Chemistry

Essential Mathematics 2: Calculus

Engineering Design and Innovation

Electrical and Energy Systems

SECOND YEAR

Computer Techniques

Mathematical Methods for Engineers 1

Stream Elective 1

Stream Elective 2

Mathematical Methods for Engineers 2

Mechanics and Physics

Stream Elective 3

Stream Elective 4

Civil Engineering Stream Electives

Geoinformatics for Engineers

Transportation Engineering

Engineering and Environmental Geology

Civil Engineering Practice

Electrical and Information Engineering Stream Electives

Programming Fundamentals

Electrical Circuit Theory

Principles of Computer Systems

Electronic Devices and Circuits

Mechanical Engineering Stream Electives

Manufacturing Practice

Mechanical Engineering Practice N

Operations Management for Engineers

Fluid and Energy Engineering

Materials Engineering

Stream Electives

Manufacturing Practice

Materials Chemistry

Fluid and Energy Engineering

Materials Characterisation

TREV, also known as the Two-seater Renewable Energy Vehicle is a commuter vehicle that runs entirely on non-polluting, renewable energy - commuting without polluting. This car was designed by staff and students at UniSA's School of Advanced Manufacturing and Mechanical Engineering.

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