

Bachelor of Technology (Mechanical and Manufacturing 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	434221
UniSA program code	LBNI
CRICOS code (international students only)	018743B
TER (February 2010 cut-off)	82.00
Program length	3 years
Prerequisites	SACE Stage 2 Mathematical Studies
Assumed knowledge	SACE Stage 2 Physics
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

This program prepares graduates for careers as engineering technologists in a range of mechanical and manufacturing engineering industries. Combining a strong practical and industry focus, students gain an understanding of fundamentals as well as an appreciation of the diversity of mechanical engineering.

Students who successfully complete this program can apply for entry to the Bachelor of Engineering (Mechanical Engineering), Bachelor of Engineering (Mechanical and Advanced Manufacturing Engineering), Bachelor of Engineering (Mechanical and

Sustainable Systems Engineering), Bachelor of Engineering (Mechanical and Applied Mechatronics Engineering) or Bachelor of Engineering (Mechanical and Nanotechnology Engineering) and receive significant credit toward the program. Students can also articulate into the above degrees after suitable completion of the first two years of the Bachelor of Technology program.

What will I study?

In the first year, all Engineering students study eight core engineering courses, including Engineering Design and Innovation, Mathematical Methods for Engineers 1 and 2, Mechanics and Physics,

Computer Techniques, Sustainable Engineering Practice and Electrical and Energy Systems. These courses provide a practice-centred foundation to engineering that exposes students to the breadth of cross-disciplinary studies as well as how engineering is applied in industry.

Students undertake a number of hands-on engineering projects including participation in the Engineers Without Borders Challenge. By the end of first year, students can choose an area of interest to specialise in.

In the final year, students can select courses to specialise their studies in mechanical engineering, advanced manufacturing, sustainable systems and mechatronics. During their study, students access specialised laboratory facilities such as robotics, CNC machinery, thermofluids and polymer composites and utilise state-of-the-art engineering equipment and software.

Students are required to complete a project in an area of specialisation: either an industry-based project with one of UniSA's industry partners or a project with one of UniSA's specialist research institutes.

UniSA, in association with industry partners and sponsors, recognises many deserving students with prizes and awards at various levels of study (for more information visit unisa.edu.au/ame/prizes).

What does it take?

Students undertaking this degree should have an inquiring mind with good verbal and written communication skills. Students should be interested in science as well as social, administrative and management issues. Competence in mathematics and physics is also desirable.

Who will employ me?

The aim of the program is to produce graduates that are immediately useful to industry as assistants to professional engineers. These graduates occupy the role of project or production engineers in a range of industries including mining, automotive, building services, plastics, electronics, sustainable energy, renewable energy, food processing, pharmaceuticals, and mechanical services. They can carry out specific and complex engineering tasks, focus on interactions within engineering systems and identify and solve complex, specialised engineering problems by applying innovative practices and procedures.

The award also provides an important role as an articulation pathway for TAFE and university graduates with diploma qualifications who wish to improve their qualifications.

Graduates of appropriate engineering diploma programs who have significant industry experience may be granted up to three semesters of credit in the Bachelor of Technology.

Professional recognition

The program is professionally accredited by Engineers Australia and is recognised as satisfying the requirements for affiliate membership of Engineers Australia.

For further information on this organisation visit engineersaustralia.org.au

Program requirements

FIRST YEAR

Computer Techniques

Engineering Materials

Mathematical Methods for Engineers 1

Sustainable Engineering Practice

Electrical and Energy Systems

Engineering Design and Innovation

Elective

Mechanics and Physics

SECOND YEAR

Mechanics and Structures

Project Planning and Control

Manufacturing Practice

Mechanical Engineering Practice N

Mechanical Design Practice

Operations Management for Engineers

Fluid and Energy Engineering

Specialisation Elective 1

Industrial Experience

THIRD YEAR

Specialisation Elective 2

Design for Manufacture and Assembly

Energy Conversion and Management

Computer Aided Engineering Practice

Specialisation Elective 3

Design in Plastics and Advanced Composites

Specialisation Elective 4

Mechanical Engineering Project 1A

SPECIALISATION ELECTIVES

Mathematical Methods for Engineers 2

Engineering Modelling

Mechanics of Machines

Fluid and Energy Management Practice

Engineering Maintenance

Mechanical Systems Design

Total Quality Management

Vehicle Emission, Control and Strategy

Robotics and Automation

Machine Vision Systems

Supply Chain Management G

Intelligent Manufacturing Systems

Sustainable Development and Design Practice

Energy and Society

Industrial Actuation and Automation



Career Services

Jing Zheng is an international student who completed a master qualification in Electrical Power Engineering at UniSA's Mawson Lakes campus. Prior to studying at UniSA he completed a Bachelor of Electrical Engineering and Automation in China.

Jing's success has come from being determined to get a job and he has treated looking for work as a job in itself. His efforts and experiences are outlined below in his words:

"The first thing I did was check the UniSA Careers website to get ideas/information on how to apply for jobs. I looked at the information on how to write a resume and covering letter and gained ideas for job searching.

I also attended the weekly resume assistance workshops to get the template and ideas for putting together my resume with assistance from the Career Adviser. Once I had developed my resume I started coming to career consultations so I could use the one on one time with the Career Adviser to have my applications checked before sending them off. I also talked through the requirements of each job so I was clear on what they were looking for. Because I am an international student I sometimes had difficulty expressing myself and the Career Adviser helped me with my English language and understanding the employer expectations.

Another thing I did was to borrow resources from the library. I also thoroughly researched all companies and roles prior to applying and read annual reports/strategy plans or any other information available which helped me understand the organisation I was applying to.

When I was asked to attend interviews I came in for career consults to practise my interview skills and did mock interviews so I could learn what sort of questions I might be asked and also practise my answers".

For further information about UniSA's Career Services please visit unisa.edu.au/careers