

Bachelor of Engineering (Mechanical)

The first two years of this award is undertaken at Flinders University and the third and fourth years are undertaken at the University of South Australia's Mawson Lakes campus. The award is conferred by the University of South Australia.

SATAC code	434321
UniSA program code	LBMR
CRICOS code (international students only)	056093E
TER (February 2010 cut-off)	70.05
Program length	2 + 2 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	N/A
Program fees	Commonwealth supported
Program fees (international students only)	(A\$) \$23,500 per annum
Scholarships available	unisa.edu.au/scholarship

Program overview

This degree combines a strong theoretical foundation with significant practical exposure, a combination that is highly sought by today's employers. This applied approach provides students with the ability to find practical solutions to engineering problems and projects.

Academic staff in the School of Advanced Manufacturing and Mechanical Engineering have close ties with a cross section of industry, and extensive research experience. Students learn about the latest developments in machinery design, manufacturing technologies, and sustainable energy usage and management.

Students may choose, as a final year project, to build and race a Formula race car, design the next generation solar commuter car, undertake a project with one of UniSA's research centres or work on an industry project with one of UniSA's industry partners.

What will I study?

The degree focuses on finding real solutions to engineering problems utilising both engineering theory and practical exposure gained throughout the program.

The first and the second years of this program are undertaken at Flinders University.

For detailed information about the courses studied in the first two years please visit Flinders University's website at flinders.edu.au/courses/

In the third year of this program, students transfer to UniSA's Mawson Lakes campus to undertake the third and fourth year courses.

Students then select courses in the areas of design, mechanics, materials, energy, fluids, processes and engineering modelling. Specialised courses in the final year provide advanced and innovative topics in mechanical engineering such as vehicle emission control,

mechanical system design, quality management and machine vision.

The final-year project offers the choice of a range of industry-based projects or one of the many special School projects such as the development of the Society of Automotive Engineers Australasia (SAE-A) Formula Car or the solar commuter vehicle.

All students in the program undertake 12 weeks of compulsory industrial experience during their study. This experience is highly regarded by students and prospective employers. Students have the opportunity to apply and integrate the knowledge and skills they have gained during their program in an industry setting. Industry experience also helps students to determine their engineering career pathway as they are able to experience particular sectors prior to graduation.

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?

The ability to design, innovate, communicate, identify and solve problems is necessary, and students should have an inquiring mind with good verbal and written communication skills. Competence in mathematics, physics and chemistry is essential. Students should have an interest in science as well as social, management and sustainability issues.

Who will employ me?

Mechanical Engineering graduates find work locally and internationally in the mining, defence, manufacturing, ship building, environmental, engineering consulting, building services, automotive, petrochemical, and other industries. Many graduates receive multiple job offers and are able to choose their employer or the industry in which they wish to work.

South Australian companies that have employed recent graduates include ASC, Orlando Wyndham Group, Holden, Origin Energy, Caroma, WMC (Olympic Dam), Connell Wagner, Bridgestone, Transport SA and SA Water.

Graduates also find employment interstate and overseas, such as one of UniSA's Mechanical Engineering graduates who found work with the Jaguar Formula 1 racing team in the United Kingdom.

Professional recognition

The program is professional accredited by Engineers Australia and is recognised as satisfying the requirements for graduate membership of Engineers Australia and comparable international institutions.

For further information on these organisations visit washingtonaccord.org and engineersaustralia.org.au

Honours

Students achieving a credit level average at the end of third year will be allowed to enrol in honours courses in fourth year. Successful completion of the program and the honours project courses may lead to the award of a degree with honours.

Program requirements

THIRD YEAR

Design for Manufacture and Assembly

Energy Conversion and Management

Project Planning and Control

Computer Aided Engineering Practice

Design in Plastics and Advanced Composites

Engineering Maintenance

Operations Management for Engineers

Fluid and Energy

Management Practice

Students are required to select a plan specialisation aligned with their project

FOURTH YEAR

Vehicle Emission, Control and Strategy

Intelligent Manufacturing Systems

Mechanical Engineering Project 1

Sustainable Development and Design Practice

Mechanical Systems Design

Mechanical Engineering Project 2

FOURTH YEAR (HONOURS)

Vehicle Emission, Control and Strategy

Intelligent Manufacturing Systems

Mechanical Engineering Project 1

Sustainable Development and Design Practice

Mechanical Systems Design

Mechanical Engineering Honours Project

