Program overview

Mechatronics is an interdisciplinary area of engineering that combines mechanical engineering with electrical engineering and computer science. A typical mechatronic system senses signals from the environment, processes them to generate data, then transforms that data into forces, motions and actions. Mechatronics has broad applications, in the design and operation of intelligent products and systems such as autonomous vehicle systems for mining and other applications, and the development of sophisticated robotic and automatic production systems.

As with all engineering degrees at the University of South Australia there is an emphasis on preparing you for professional engineering practice, and on the innovative application of knowledge to practical engineering problems.

What will I study?

UniSA's common first year in Engineering provides an introduction to the practice of Engineering as well as the study of fundamental mathematics, science and computing. These courses provide a practice-centred foundation to engineering that exposes you to the breadth of cross-disciplinary studies as well as how engineering is applied in industry. You will undertake a number of hands-on engineering projects including participation in the Engineers Without Borders Challenge.

In the second and third years of the program you will undertake studies in the core discipline areas that are required for designing mechatronic systems. In Electrical Engineering you will learn about electrical and electronic circuits, how electrical signals are generated and analysed and used to control systems, and how modern embedded systems based on microcontrollers are developed. In Mechanical Engineering you will study the fundamentals of mechanics and dynamics and learn about how mechanical systems are designed. You will also learn how to develop software programs to provide the intelligence for a mechatronic system and will study some advanced mathematics providing the basis for the studies you will undertake in the engineering areas.

In the final part of the program you will undertake courses which integrate the various disciplines together into the design of mechatronic systems. You will undertake courses in areas such as the design of industrial automation systems and autonomous robotic vehicles. In addition you will develop the skills required for professional engineering practice, undertake a major final year project and study advanced mechatronic related courses.
Information for domestic students
Fees: This program is Commonwealth Supported. Fees for Commonwealth Supported Students are calculated at the course level.

How to apply (domestic)
Applications for this program are via SATAC. For further information about UniSA’s Engineering programs please contact:
(08) 8302 2376 or 1300 UNINOW
Web: www.unisa.edu.au/future/
Email: study@unisa.edu.au

Information for international students
Fees: AU $26,250 per year.

English language requirements
- IELTS (International English Language Testing System) Reading and writing - 6.0; Overall band score - 6.0.
- Certificate of Proficiency in English (University of Cambridge ESOL examination) - Grade of C.
- Certificate in Advanced English (University of Cambridge ESOL examination) - Grade of C.
- TOEFL (Test of English as a Foreign Language) TOEFL IBT (internet based test) - 80 with no band less than 20.
- TOEFL IBT (Paper-based test) - 550 with TWE (Test of Written English) of 4.5

Other qualifications
- Successful completion of a secondary qualification in Australia within the last two years.
- Successful completion of at least one year of tertiary study in Australia within the last two years.
- Successful completion of one year of secondary or tertiary study conducted and completed in English within the last two years in a country in which English is commonly used, as determined by the University (see Note 2).

How to apply (international students)
Applications to this program are via UniSA's Apply Online portal.

For further information about UniSA's Engineering programs please contact:
+61 3 8627 4854
Freecall:
Australia: 1800 1818 58
China (Northern): 10 800 61 00 245
China (Southern): 10 800 261 0245
Indonesia: 001 803 61 269
Japan: 0053 161 0011
Taiwan: 00801 611 343
Web: www.unisa.edu.au/international/
Email: international.office@unisa.edu.au

While every effort is made to provide full and accurate information at the time of publication, the University does not give any warranties in relation to the accuracy and completeness of the contents. The University also reserves the right to discontinue or vary arrangements, programs, courses (units), assessment requirements and admission requirements without prior notice.

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What does it take?
You should be a good problem solver and show a passion for understanding new gadgets and technologies. You will need to be able to think scientifically, critically analyse information and have good interpersonal skills.

Who will employ me?
There are a large range of companies and organisations in South Australia and beyond seeking to hire good engineers, with a particular emphasis on the use of electronics and smart technologies, due to increased activity in areas such as mining, defence and manufacturing. Whilst potential employers include a range of large companies such as ASC, DSTO, BAE Systems, Codan and BHP Billiton, there is a large number of small to medium size South Australian companies that operate highly specialised businesses which require the sort of skills developed in the mechatronic engineering program. An engineering degree provides many opportunities for work in Australia and overseas.

Professional Accreditation
This program is designed to meet the requirements for professional accreditation and graduate membership of Engineers Australia and comparable international institutions, including those in the Washington Accord (washingtonaccord.org). Such accreditation is provisional until the program produces its first graduates.

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

Why study at UniSA?
UniSA Engineering degrees combine theory and practice from the first year of the program, giving you real life exposure to engineering practice from day one. We offer a wide range of flexible pathways into engineering degrees and with a common first year, you can move between specialisations without the loss of the courses you have already passed. If you achieve high results in first year, you may be given the opportunity to complete your degree in as little as three years instead of the standard four years.

Experience 1 Studio
Experience 1 Studio is an innovative first year Engineering learning hub, which is located at Mawson Lakes campus. It features a modern design, an open studio environment for project-based learning, more intimate spaces for small group interaction and zones for individual study. This is a learning environment that will influence the direction of future teaching and learning environments locally, nationally and internationally. This space is directly linked to the Engineering common first year offered by UniSA.

The Engineering program coursework is supported by internships, industry placements and industry projects which present you with a number of opportunities to experience real life situations and build professional networks with key stakeholders in the engineering field.

Teaching experience
UniSA’s academic staff are both highly experienced and acclaimed so you will learn from outstanding professionals.

Associate Professor Mahfuz Aziz, Program Director - Engineering, an academic committed to the success of UniSA’s Engineering programs won the nation’s highest honour for university teachers – The Prime Minister’s Award for Australian University Teacher of the Year 2009. Dr Aziz is an exceptional teacher and is highly regarded amongst his peers and students.