

Bachelor of Engineering (Flinders) (Biomedical)

The first two years of these awards are undertaken at the University of South Australia's Mawson Lakes and City East campuses and the third and fourth years are undertaken at Flinders University. The award is conferred by the University of South Australia.

| | |
|---|--|
| SATAC code | 434831 |
| UniSA program code | LBFL |
| CRICOS code (international students only) | 064671J |
| TER (February 2010 cut-off) | 85.00 |
| 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 | Yes |
| Program fees | Commonwealth supported |
| Program fees (international students only) | (A\$) \$23,500 per annum |
| Scholarships available | unisa.edu.au/scholarship |

Program overview

Biomedical engineering involves the application of electronics and computer systems to improve health care and health services to enhance the quality of human life. It covers a range of fields including medical devices, medical imaging, physiological signal processing, biomechanics and biomaterials. Biomedical engineering results in products such as diagnostic devices, biocompatible prostheses, medical devices, and imaging equipment such as MRIs and EEGs. It also assists in the development of tools for the training of medical professionals.

Students gain a solid education in Engineering and Medical Science and develop skills to investigate, plan, design, manufacture and maintain systems and equipment used in all aspects of health care.

What will I study?

The first year of the program is similar to the first year of all other University of South Australia Engineering awards and students may transfer to another University of South

Australia Engineering award after one year with no loss of time.

The first year contains study in fundamental science and engineering topics including electrical and energy systems and mathematics. The second year builds on this base with topics dealing with a variety of areas including biomechanics, human physiology and biomedical instrumentation. Students then transfer to Flinders University to complete their award. The third year provides further biomedical material and incorporates Flinders' nationally recognised industry placement program which provides students with 20 weeks of structured industry work experience with one of 100 local, national and international organisations. Students gain specialist knowledge in key areas, graduating with a proven on-the-job performance. The final year provides further biomedical topics and provides scope to take electives in computer science and engineering. It also includes a major biomedical research project.

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. An empathy with people with medical problems is also essential. Competence in mathematics, physics is essential. Students should have an interest in medicine and science.

Who will employ me?

Graduates can find employment in a variety of organisations, including hospitals, medical device manufacturers, pharmaceutical and medicine manufacturing, medical instruments and supplies industries and universities.

Professional recognition

The successful completion of the Bachelor of Engineering (Biomedical) program is designed to meet 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 course may lead to the award of a degree with honours.

Program requirements

FIRST YEAR UniSA

Mathematical Methods for Engineers 1

Computer Techniques

Engineering Materials

Sustainable Engineering Practice

Mathematical Methods for Engineers 2

Mechanics and Physics

Electrical and Energy Systems

Engineering Design and Innovation

SECOND YEAR UniSA

Programming Fundamentals

Human Physiology 1

Signals and Systems

Computer Hardware

Electronics and Instrumentation

Principles of Computer Systems

Biomechanics 100

Bioinstrumentation

Please note that the third, fourth and honours fourth year of this program are competed at Flinders University. Upon successful completion of this program graduates will have their degree awarded by Flinders University.

For further information on the third, fourth and honours fourth year please visit the Flinders University website at flinders.edu.au/courses/