Overview

Biomedical engineering is the application of engineering principles to develop technologies and solve problems in a range of healthcare-related fields such as implantable bionics, drug-delivery systems, medical imaging, radiotherapies, orthopedic devices, telemedicine, robotic surgery, cell and tissue engineering, records management and physical rehabilitation.

The specialisation in Biomedical Engineering comprises a suite of advanced disciplinary electives, disciplinary electives, undergraduate courses in anatomy and physiology and a research component. It provides a solid postgraduate coursework program (96 UOC total), for an engineering graduate to extend their knowledge into the field of biomedical engineering.

ENTRY REQUIREMENTS

For entry details, please click here.
<table>
<thead>
<tr>
<th><strong>Faculty</strong></th>
<th>Faculty of Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School</strong></td>
<td>Graduate School of Biomedical Engineering</td>
</tr>
<tr>
<td><strong>Study Level</strong></td>
<td>Postgraduate</td>
</tr>
<tr>
<td><strong>Minimum Units of Credit</strong></td>
<td>96</td>
</tr>
<tr>
<td><strong>Specialisation Type</strong></td>
<td>Specialisation</td>
</tr>
</tbody>
</table>
Available in Program(s)

Program(s) in which this specialisation is available

Master of Engineering Science - MEngSc
8338 Engineering Science
Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 96
Typical Duration: 2 Years
Specialisation Structure

Students must complete 96 UOC.

Research Core Courses

Students must take 18 UOC of the following courses.

BIOM9020  |  6 UOC
Masters Project (Half Time)

BIOM9021  |  6 UOC
Masters Project (Half Time)

BIOM9914  |  12 UOC
Masters Project

One of the following:
GSOE9010  |  6 UOC
Engineering Postgraduate Coursework Research Skills

GSOE9011  |  6 UOC
Engineering Postgraduate Coursework Research Skills

GSOE9220  |  6 UOC
Launching a Startup

Advanced Disciplinary Knowledge Courses

Students must take at least 30 UOC, up to a maximum of 72 UOC of the following courses.

BIOM9027  |  6 UOC
Medical Imaging

BIOM9311  |  6 UOC
Mass Transfer in Medicine
BIOM9332 | 6 UOC
Biocompatibility

BIOM9333 | 6 UOC
Cellular and Tissue Engineering

BIOM9410 | 6 UOC
Regulatory Requirements of Biomedical Technology

BIOM9420 | 6 UOC
Clinical Laboratory Science

BIOM9450 | 6 UOC
Biomedical and Health Informatics

BIOM9541 | 6 UOC
Mechanics of the Human Body

BIOM9551 | 6 UOC
Biomechanics of Physical Rehabilitation

BIOM9561 | 6 UOC
Mechanical Properties of Biomaterials

BIOM9621 | 6 UOC
Biological Signal Analysis

BIOM9640 | 6 UOC
Biomedical instrumentation

BIOM9650 | 6 UOC
Biosensors and Transducers

BIOM9660 | 6 UOC
Bionics and Neuromodulation
BIOM9701 | 6 UOC
Dynamics of the Cardiovascular System

BIOM9711 | 6 UOC
Modelling Organs, Tissues and Devices

**Disciplinary Knowledge Courses**

Students can take up to a maximum of 24 UOC of the following courses on approval of the program authority

**ANAT2511 | 6 UOC**
Fundamentals of Anatomy

any level 4 Chemistry course

any level 4 Electrical Engineering course

any level 4 Mechanical Engineering course

**PHSL2121 | 6 UOC**
Principles of Physiology A

**PHSL2221 | 6 UOC**
Principles of Physiology B

**Electives**

Students must take at least 6 UOC of the following courses.

The remainder of electives may be chosen from advanced disciplinary courses from this specialisation, or another specialisation within the Master of Engineering Science program with approval from the stream authority.

**GSOE9340 | 6 UOC**
Life Cycle Engineering

**GSOE9712 | 6 UOC**
Foundational Courses Maximum

Students may only undertake a maximum of 12 UOC of the following courses.

ANAT2511  |  6 UOC  
Fundamentals of Anatomy

PHSL2121  |  6 UOC  
Principles of Physiology A

PHSL2221  |  6 UOC  
Principles of Physiology B

Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Additional Information

Exemptions or Advanced Standing

Exemptions and advanced standing rules for the stream follow the program rules. A student may apply for exemptions. Students with a four year honours degree (for example in Biomedical Engineering) can obtain a maximum of 48 UOC of exemptions. Full details are noted on the program handbook page.

Need information on our engineering programs? Start your search at the Faculty website
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions