YOUR FUTURE. 
YOUR CHOICE.

Biomedical engineering is the application of engineering principles to developing technologies and solving problems in a diverse range of healthcare-related fields like implantable bionics, drug delivery systems, medical imaging, radiotherapies, orthopaedic devices, telemedicine, robotic surgery, cell and tissue engineering, records management, physical rehabilitation and much more.

The Faculty of Engineering at UNSW offers advanced study programs for postgraduate students interested in biomedical engineering through both coursework and research.

GRADUATE SCHOOL OF 
BIOMEDICAL ENGINEERING

The Graduate School of Biomedical Engineering is internationally recognised for its contribution to biomedical engineering education and research. We offer the highest quality educational programs and maintain an internationally competitive research profile, undertaking ground-breaking research in a number of biomedical engineering fields including biomaterials, tissue engineering, regenerative medicine, biomechanics of human movement, implantable bionics, computational modelling of tissues and devices, biological processing and telehealth.

We host unique and leading edge biomedical engineering facilities such as a fully approved and regulated clean-room, a world class electronics, laser and micro-machining design lab, state-of-the-art computational facilities, confocal and multi-photon microscopy and microfluidics imaging systems.

COURSEWORK PROGRAMS
- Master of Engineering Science (Biomedical Engineering)
- Master of Biomedical Engineering
- Graduate Diploma of Biomedical Engineering.
The Master of Engineering Science program at UNSW Engineering is designed especially for graduate engineers seeking to develop or enhance their careers through cross-training, re-training and specialisation. Our courses are packed with stimulating and comprehensive content that will inspire you to learn more and stay connected to your exciting engineering future. An extensive research component ensures every graduating student is armed with advanced practical and analytical skills.

* Eligible students may apply for credit for up to eight courses (48 UOC) of the Master of Engineering Science or four courses (24 UOC) of Graduate Diploma programs depending on previous study and professional experience. This can reduce the time taken by up to a year.

This program is ideal for engineers who wish to change direction in their careers. It provides a solid postgraduate coursework program for an engineering graduate to extend their knowledge into the field of biomedical engineering.

DISCIPLINARY KNOWLEDGE COURSES

Students can choose up to four Disciplinary Knowledge Courses from relevant disciplines such as Electrical, Chemical, and Mechanical Engineering with approval. They may also, if approved, take up to three foundational courses to provide necessary background in anatomy and physiology.

ADVANCED DISCIPLINARY KNOWLEDGE COURSES

Students can choose from courses including:
- BIOM9510 Introductory Biomechanics
- BIOM9027 Medical Imaging
- BIOM9332 Biocompatibility
- BIOM9333 Cellular and Tissue Engineering
- BIOM9432 Introductory Polymer Chemistry
- BIOM9450 Clinical Information Systems
- BIOM9551 Biomechanics of Physical Rehabilitation
- BIOM9561 Mechanical Properties of Biomaterials
- BIOM9640 Biomedical instrumentation
- BIOM9650 Biosensors and transducers
- BIOM9660 Implantable Bionics
- BIOM9670 Advanced Bionics
- BIOM9701 Dynamics of the Cardiovascular System
- BIOM9711 Modelling Organs, Tissues and Devices

ELECTIVES

At least one course must be taken from the approved list of Engineering and Technical Management Courses:
- GSOE9712 Engineering Statistics and Experiment Design
- GSOE9340 Life Cycle Engineering
- GSOE9810 Process and Product Quality in Engineering
- GSOE9820 Engineering Project Management
- GSOE9830 Economic Decision Analysis in Engineering
- GSOE9840 Process Improvement and Maintenance Engineering.

The remainder can be chosen from Advanced Disciplinary Knowledge Courses from across the Master of Engineering Science program as long as the student is eligible to enroll.

RESEARCH

Students must complete a research component that gives them the opportunity to broaden their understanding of their chosen biomedical engineering topic through practical application with the close support of a practicing engineering researcher.

ENTRY REQUIREMENTS

A student must hold a Bachelor of Engineering with at least Honours II/2 (or equivalent) in a relevant discipline. Students with at least 65% average can progress from the Graduate Diploma of Engineering Science into this program.

EXEMPTIONS OR ADVANCED STANDING

Students may be granted credit for some courses. Those with a four year honours degree (for example in Chemical Engineering) can apply for credit for up to 48 UOC for the Masters (effectively reducing it to one year full time). Full details can be found on the program handbook page.
The Master of Biomedical Engineering program is designed for students with either a medical/biological science background or an engineering/physical science background who wish to further their education in the field of Biomedical Engineering. Qualified students can choose to enter at Masters level, but those who have less time (or who would like just a taste of postgraduate study) can begin with the Graduate Diploma.

<table>
<thead>
<tr>
<th>PROGRAM OPTIONS</th>
<th>PROGRAM CODE</th>
<th>UNITS OF CREDIT</th>
<th>DURATION</th>
<th>COMMENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Biomedical Engineering</td>
<td>8660</td>
<td>72</td>
<td>1.5 years</td>
<td>Feb, Jul</td>
</tr>
<tr>
<td>Graduate Diploma of Biomedical Engineering</td>
<td>5449</td>
<td>48</td>
<td>1 year</td>
<td>Feb, Jul</td>
</tr>
</tbody>
</table>

TYPICAL PROGRAM STRUCTURE

The Master of Biomedical Engineering program is very flexible and caters for students from different backgrounds by allowing them to undertake introductory courses to broaden their knowledge of either biomedical or physical sciences.

Students with previous medical/biological science qualifications may take some foundation courses in mathematics, mechanics, electronics and computing. Students with a non-biosciences background may take foundation courses in physiology, anatomy, pathology or biochemistry. Both then choose from a common set of electives.

SPECIALISATION COURSES AND ELECTIVES

The core biomedical engineering content may be selected from the following options:

**Semester One**
- BIOM9311 Mass Transfer in Medicine
- BIOM9332 Biocompatibility
- BIOM9333 Cellular and Tissue Engineering
- BIOM9510 Introductory Biomechanics
- BIOM9551 Biomechanics of Physical Rehabilitation
- BIOM9621 Biological Signal Analysis
- BIOM9640 Biomedical instrumentation
- BIOM9670 Advanced Bionics
- BIOM9701 Dynamics of Cardiovascular Systems
- BIOM9711 Modelling Organs, Tissues and Devices
- GSOE9712 Engineering Statistics.

*Please note semester offerings may vary.

Semester Two
- BIOM9027 Medical Imaging
- BIOM9060 Biomedical Systems Analysis
- BIOM9410 Regulatory Requirements of Biomed Technology
- BIOM9420 Clinical Laboratory Science
- BIOM9432 Introductory Polymer Chemistry
- BIOM9450 Clinical Information Systems
- BIOM9541 Mechanics of the Human Body
- BIOM9561 Mechanical Properties of Biomaterial
- BIOM9650 Biosensors and transducers
- BIOM9660 Implantable Bionics
- GSOE9712 Engineering Statistics.

RESEARCH

High achieving students may also apply to include an optional research component (BIOM9914 Masters Project).

Latest program and course information may be found at the Biomedical Engineering website.

ENTRY REQUIREMENTS

**Masters:** Students must have a four-year Bachelor degree with Honours II/2 in either engineering or a biomedical health-related discipline (medicine, physiotherapy) or a graduate diploma in biomedical engineering.

**Graduate Diploma:** Students must have a minimum three-year Bachelor degree from an approved university in a relevant discipline, such as engineering, medicine, medical sciences or health science. Students with a minimum average of 65% can progress from the Graduate Diploma into the Masters program.
WHY UNSW ENGINEERING?

UNSW Engineering is the largest Engineering Faculty in Australia. We continue to foster and develop elite-level engineers across a broad range of disciplines exposing them to world-class innovation, cutting-edge research and dedicated teaching staff. As such, we are recognised as Australia’s top Engineering university.*

WHY NOT JOIN US?

• Cutting-edge programs – be inspired by our research-led, industry-relevant curriculum.
• Real-world focus – continually updated programs ensure graduates are armed with the very latest knowledge and techniques to be able to stand at the top of their field.
• Flexibility – programs can be tailored to suit your interests, entry points twice a year, out-of-hours classes and distance learning options.

TAKING THE NEXT STEP

HOW TO APPLY

To gain entry to UNSW you’ll need to successfully meet both the academic entry requirements and the English language requirements. For assistance with the application process, contact a UNSW official representative at international.unsw.edu.au/contact-us

Apply online at apply.unsw.edu.au

The UNSW Apply Online service has quick links to key information for applicants, including the application tracking service which allows you to check the progress of your application.

Closing Dates

Semester One (February): Applications must be lodged by 30 November.
Semester Two (July): Applications must be lodged by 30 May.
Not all programs have a Semester Two start date.

Late applications

Late applications will be accepted after the closing dates subject to the availability of places. Please note that whilst UNSW endeavour to process applications as quickly as possible, due to time constraints it cannot be guaranteed that a late application will be processed in time for semester commencement.

International Students

Applications are made directly to UNSW Australia, via our Apply Online portal at apply.unsw.edu.au For more information on what you need and how to apply go to international.unsw.edu.au

Most international students will require a student visa to study in Australia (application and processing of this visa may take some time). More information can be found at international.unsw.edu.au/living-sydney/visas/

SCHOLARSHIPS

There are a number of scholarships available for eligible students. To find out more about available postgraduate scholarships, eligibility and application process go to scholarships.unsw.edu.au

FEES

A postgraduate coursework fee calculator for both domestic and international students can be found at apply.unsw.edu.au

ACCOMMODATION

UNSW offers a range of accommodation options, visit housing.unsw.edu.au for full details.

STUDENT LIFE

At UNSW there is an abundance of support available to students. To find out more about studying at UNSW, visit unsw.edu.au and search for Student Life.

* Shanghai Jiao Tong University’s Academic Ranking of World Universities in Engineering/Technology and Computer Sciences 2014.

CRICOS Provider Code: NSW 00098G

More technology entrepreneurs

than any other university in Australia.

(Crunchbase Report 2013)