Overview

This three-year degree program is jointly offered by the Faculty of Medicine and the Faculty of Science. It provides the basis for a career in biomedical research and is also an appropriate first degree for students planning to enter graduate medical or paramedical programs.

Medical Science is the area of science which underpins the practice of medicine. It incorporates the study of structure and chemistry of the cells that make up living organisms (Cell & Molecular Biology and Biochemistry) with particular reference to humans, and specifically of the structure and function of the human body (Anatomy and Physiology). It then deals with the general processes leading to disease (Pathology), the role of bacteria, viruses and other micro-organisms in disease (Microbiology) as well as drugs which are used to cure human diseases (Pharmacology). Other areas available for study include the way in which our form and function is inherited (Genetics), the processes of development from the fertilised ovum (Embryology), the natural defences of the body (Immunology) and the study of the structure and function of the brain (Neuroscience).

Students completing this program with exceptional performance may have the opportunity to enrol in an Honours program leading to an Honours degree.

A limited number of high-performing students may be able to gain entry to the UNSW Medicine program with advanced standing. For more information, please click here.

Students intending to apply for entry via this pathway must have completed all compulsory courses by the end of Stage 2.
Faculty
Faculty of Science

Campus
Kensington

Study Level
Undergraduate

Typical duration
3 Years

Delivery Mode
Face-to-face

Intake Period
Term 1

Academic Calendar
3+ Calendar

Minimum Units of Credit
144

Award type
Bachelors Pass

Award(s)
Bachelor of Medical Science - BMedSc

UAC Code
429700

CRICOS Code
030459E
Learning Outcomes

1. Be able to demonstrate an understanding of biomedical science and its relevance to society, as well as an understanding of science as a profession and the skills required;
   Scholars

2. Have knowledge of the components of biomedical sciences and their relationship to one another with an ability to appropriately apply theoretical, computing or laboratory techniques in these areas as relevant;
   Global Citizens Scholars

3. Have knowledge and skills in scientific inquiry, analysis, and reporting, including an ability to formulate hypotheses, appropriately use scientific literature and data, analyse and synthesise information, and draw conclusions;
   Scholars

4. Demonstrate critical thinking and problem-solving skills in diverse contexts;
   Leaders Scholars

5. Be able to communicate effectively and appropriately to a range of audiences, for a range of purposes, and using a variety of modes;
   Scholars

6. Be able to work effectively within a team and contribute positively to collaborative scientific research;
   Scholars Leaders

7. Be able to work responsibly, safely and with respect to diversity, within ethical, academic, and regulatory frameworks relevant to biomedical science;
   Global Citizens Professionals

8. Be able to self-manage and work independently with an ability to take responsibility for their own learning, and an appreciation of the value of learning;
   Scholars Professionals

Graduate Capabilities:

For more information on Graduate Capabilities, please click on this link.
# Program Structure

Students must complete 144 UOC as a standalone program.

**120 UOC Medical Science courses:**
- 90 UOC of core courses across Stages 1 and 2.
- 6 UOC Science elective taken in Stage 1.
- 24 UOC of Directed Electives in Stage 3. The Stage 3 electives can be used to complete an optional major.

**12 UOC Free Electives.** These courses can be taken from any Faculty of the University. It is recommended that Free Electives are taken in Stage 3.

**12 UOC General Education courses.** These courses cannot be Science or Medicine courses. Please see the rules regarding General Education below. It is recommended that General Education courses are taken in Stage 3.

Please click the Sample Programs link below to view a typical enrolment pattern for this program.

## Majors

Students may elect to complete a major, or a double major, from the following areas. Where a student would like to graduate with a major (this is not a compulsory part of the program) this must be declared by the commencement of a student's final year of study.

Please Note: Students may complete a maximum of two majors but no double-counting of courses between majors is allowed at Level 3.

## MAJOR:

- **ANATE1** | 72 UOC
  Human Anatomy

- **BIOCH1** | 66 UOC
  Molecular Biology

- **BIOCI1** | 66 UOC
  Molecular Genetics
Level 1 Core Courses

Students must take 42 UOC of the following courses.

Note: Students in 3991 can only enrol in SCIF1131 in T3 if they cannot take SCIF1111 in T1

ANAT1521 | 6 UOC
Anatomy for Medical Science

BABS1201 | 6 UOC
Molecules, Cells and Genes

CHEM1011 | 6 UOC
Chemistry 1A: Atoms, Molecules and Energy

CHEM1021 | 6 UOC
Chemistry 1B: Elements, Compounds and Life

MATH1041 | 6 UOC
Statistics for Life and Social Sciences
One of the following:
BABS2202  |  6 UOC
Molecular Cell Biology 1

BABS2204  |  6 UOC
Genetics

BIOS1101  |  6 UOC
Evolutionary and Functional Biology

One of the following:
SCIF1111  |  6 UOC
Perspectives in Medical Science

SCIF1131  |  6 UOC
Introductory Skills for Science

**Level 2 Core Courses**

Students must take 48 UOC of the following courses.

ANAT2241  |  6 UOC
Histology: Basic and Systematic

BIOC2101  |  6 UOC
Principles of Biochemistry (Advanced)

BIOC2201  |  6 UOC
Principles of Molecular Biology (Advanced)

MICR2011  |  6 UOC
Microbiology 1

PATH2201  |  6 UOC
Processes in Disease

PHAR2011  |  6 UOC
Introductory Pharmacology and Toxicology
PHSL2101 | 6 UOC
Physiology 1A

PHSL2201 | 6 UOC
Physiology 1B

**Level 3 Prescribed Electives**

Students must take at least 24 UOC of the following courses.

Please Note: When making their course choices, students who intend to do Honours must consult with the School of Biotechnology and Biomolecular Sciences or the School of Medical Sciences about requirements for Honours prior to enrolment in Stage 3.

ANAT2341 | 6 UOC
Embryology: Early and Systematic Development

ANAT3121 | 6 UOC
Visceral Anatomy

ANAT3131 | 6 UOC
Functional Anatomy of the Head, Neck and Back

ANAT3141 | 6 UOC
Functional Anatomy of the Limbs

ANAT3411 | 6 UOC
Neuroanatomy

BABS3021 | 6 UOC
Microbial Genetics

BABS3041 | 6 UOC
Immunology
BABS3061 | 6 UOC
Medical Biotechnology

BABS3071 | 6 UOC
Commercial Biotechnology

BABS3081 | 6 UOC
Bacteria and Disease

BABS3121 | 6 UOC
Molecular Biology of Nucleic Acids

BABS3151 | 6 UOC
Human Molecular Genetics and Disease

BABS3281 | 6 UOC
Molecular Frontiers

BABS3291 | 6 UOC
Genes, Genomes and Evolution

BABS3621 | 6 UOC
Molecular Biology of Nucleic Acids (Advanced)

BIOC3111 | 6 UOC
Molecular Biology of Proteins

BIOC3261 | 6 UOC
Human Biochemistry

BIOC3271 | 6 UOC
Molecular Cell Biology 2

BIOC3671 | 6 UOC
Molecular Cell Biology 2 (Advanced)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Unit of Credit (UOC)</th>
<th>Course Title</th>
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<td>Microbial Genetics (Advanced)</td>
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<td>NEUR3101</td>
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<td>NEUR3121</td>
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<td>Molecular and Cellular Neuroscience</td>
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<td>PATH3205</td>
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<td>Molecular Basis of Disease</td>
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<tr>
<td>PATH3206</td>
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<tr>
<td>PATH3207</td>
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<td>PHAR3101</td>
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<td>Drug Discovery, Design and Development</td>
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<td>PHAR3102</td>
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<td>Molecular Pharmacology</td>
</tr>
<tr>
<td>PHAR3202</td>
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</tbody>
</table>
Neuropharmacology

PHAR3251  |  6 UOC
Clinical and Experimental Pharmacology

PHSL3211  |  6 UOC
Cardiovascular Physiology and Pathophysiology

PHSL3221  |  6 UOC
Endocrine, Reproductive and Developmental Physiology

One of the following:
BABS3301  |  6 UOC
Biomolecular Science Laboratory Project (Advanced)

SOMS3001  |  6 UOC
School of Medical Sciences Research Internship

Science Elective

Students must take 6 UOC of the following courses (Psychology, Physics or other Mathematics courses are recommended)

any course offered by Faculty of Science

Free Electives

Students must take 12 UOC of the following courses.

any course

General Education

Students must take 12 UOC of the following courses.

Any course defined as a Science or Medicine course cannot be taken as General Education (GE). All other courses can be used to fulfil the GE requirement of this program, including GEN# coded courses. Any exceptions to these rules must be approved by the Associate Dean (Academic Programs) or nominee.
Course Information Rule

GEN# courses cannot count towards the free elective component, or towards science core courses or science electives in the program. Any exceptions to these rules must be approved by the Associate Dean (Academic Programs) or nominee.

Excluded General Education Courses

Students may not undertake any of the following excluded courses.

any General Education course

Level 2 Maturity Requirements

Students must normally have completed 24 UOC of Level 1 courses before enrolling in Level 2 courses.

any level 2 course

Level 3 Maturity Requirements

Students must have completed 96 UOC before taking any of the following courses.

ANAT2341 | 6 UOC
Embryology: Early and Systematic Development

ANAT3131 | 6 UOC
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<thead>
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<th>Course Code</th>
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<tr>
<td>ANAT3141</td>
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<tr>
<td>ANAT3411</td>
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<tr>
<td>Functional Anatomy of the Limbs</td>
<td></td>
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<tr>
<td>BABS3021</td>
<td>6</td>
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<tr>
<td>Microbial Genetics</td>
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<tr>
<td>BABS3041</td>
<td>6</td>
</tr>
<tr>
<td>Immunology</td>
<td></td>
</tr>
<tr>
<td>BABS3061</td>
<td>6</td>
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<td>Medical Biotechnology</td>
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<tr>
<td>BABS3071</td>
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<td>Commercial Biotechnology</td>
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<tr>
<td>BABS3151</td>
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<td>BABS3281</td>
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<tr>
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<tr>
<td>BABS3621</td>
<td>6 UOC</td>
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<td>SOMS3001</td>
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<tr>
<td>School of Medical Sciences Research Internship</td>
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</tr>
</tbody>
</table>

**Sample Programs**

To access sample program(s), please visit:

Sample Science Programs
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.
Related Programs

Bachelor of Advanced Science (Honours) - BAdvSci(Hons)

3962 Advanced Science (Honours)

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years

Read More

Bachelor of Science - BSc

3970 Science

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 144
Typical Duration: 3 Years

Read More
Program Requirements

Recognition of Prior Learning

UNSW Students may be granted Recognition for Prior Learning (RPL) which may or may not reduce the amount of learning required to achieve a degree at UNSW. Generally, RPL is only granted based on the completion of tertiary-level studies, but in exceptional circumstances may also include non-formal or informal learning such as professional experience. RPL will not be granted based on partly completed tertiary courses. All applications for RPL at UNSW are subject to UNSW Recognition of Prior Learning (Coursework Programs) Policy and Procedures. Students seeking credit for courses completed at another university are required to submit documentary evidence (course outlines, academic transcripts) to support their application, and to nominate the course(s) for which they seek credit. In addition, the following conditions apply for all UNSW Science programs (including the Science component of dual award programs): Specified course credit, i.e. credit granted for an exact or near exact equivalence to a course at UNSW, will not be granted when more than 7 years has elapsed from the successful completion of the course (or other learning) and the student’s commencement in the Science program. Where this time period is shorter it will be stipulated in the individual rules for the relevant program. Unspecified course credit (e.g. General Education or free electives) will not be granted when more than 10 years has elapsed from the successful completion of the course (or other learning) and the student’s commencement in the Science program. Students may only receive credit of up to a maximum of 50% of the coursework component of their Science program, excluding Honours. For most undergraduate programs this will be 72 UOC. For dual award programs that include a Science component, it will be a maximum of 50% of the Science component of the dual degree, excluding Honours. Credit for the other program will be assessed by the Faculty that administers that program. Applications for RPL will only be assessed for students who have accepted a place to study in a UNSW Science program. Students must formally apply for RPL unless they become a UNSW student as part of a formal Articulation Agreement. Applications for RPL should be made as early as possible in the student’s program. Students who are readmitted into a Science program after a period of unapproved absence or deferment, or after exclusion, will not necessarily retain credit for all units completed at UNSW prior to the absence if the date of completion of the units of study is greater than the 7 and 10-year rules outlined in points 1 and 2 above. In these cases, the credit retained will be decided by the Associate Dean (Academic Programs) in consultation (when necessary) with the Program and/or Course Authority.
Progression to Stages 2 and 3 is subject to academic performance. Students will be required to attain a weighted average mark (WAM) of at least 65 in each term. Where students do not maintain this minimum level of academic performance, they will be transferred to the Bachelor of Science program (program 3970).

For more information on university policy on progression requirements please visit Academic Progression.
Pathways

Honours Programs

Bachelor of Science (Honours) - BSc(Hons)
4500 Science (Honours)

Faculty: Faculty of Science
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years

Read More

Post Graduate

Master of Biomedical Engineering - MBiomedE
8660 Biomedical Engineering

Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 72
Typical Duration: 1.7 Years

Read More
Professional Outcomes

Career Opportunities

Working in medical research, medical laboratories, pathology laboratories, forensic science, pharmaceutical and related industries and developing health policy.
Recognition of Achievement

University Medal

The University Medal is awarded to recognise outstanding academic performance by a bachelor degree student in line with the University Medal Policy and University Medal Procedure.

Award of Pass with Distinction

The Award of Pass with Distinction is awarded when a weighted average mark (WAM) of at least 75% has been achieved and at least 50% of the requirements of the award completed at UNSW. All eligible programs will award Pass with Distinction except in special circumstances where approval of Academic Board has been given for a program to opt out.

For more information, please visit:

Current Students Pass With Distinction
Additional Information

Definition of 'Science' courses

Table 1

Science Handbook Rules and Editions

Students must follow the program rules and requirements in the UNSW Handbook published in the year they commence their studies with the Faculty of Science.

Students who transfer from another UNSW Faculty into Science (for example, from a Bachelor of Arts into a Bachelor of Science) must follow the program rules and requirements in the UNSW Handbook published in the year of their transfer.

Students, who are readmitted to UNSW after a period of unapproved absence or deferment, or after exclusion, must satisfy the program rules in the Handbook published in the year of their readmission. In addition, these students may be subject to restrictions on which courses taken at UNSW may be counted on their return. In some cases, students returning from an unapproved absence may be required to repeat courses. See the Recognition of Prior Learning (RPL) and Advanced Standing section below for more details. Students who take approved leave or deferment will follow the Handbook for the year of their original commencement unless otherwise approved by the Associate Dean (Academic Programs).

Faculty of Science Rules

The Faculty of Science has some rules that relate to all students enrolled in programs offered by the Faculty in relation to recognition for prior learning, general education, course exclusions, study load, and cross-institutional study. All students should read the information contained on the Faculty General Rules and Requirements page.
Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

- Domestic Students
- Commonwealth Supported Students
- International Students
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)
© UNSW Sydney (CRICOS Provider No.: 00098G), 2019. The information contained in this Handbook is indicative only. While every effort is made to keep this information up-to-date, the University reserves the right to discontinue or vary arrangements, programs and courses at any time without notice and at its discretion. While the University will try to avoid or minimise any inconvenience, changes may also be made to programs, courses and staff after enrolment. The University may also set limits on the number of students in a course.

Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179