Biochemistry, molecular biology, genetics and microbiology are the key foundations of modern biology, biomedicine and biotechnology. UNSW offers a range of basic and advanced programs in these disciplines to prepare students for the science of tomorrow. These programs are ideal for students interested in understanding and appreciating biological processes at the molecular level. The disciplines also represent fundamental components of medical science and play an increasingly important role in many aspects of modern medicine.

Graduate Diploma in Biochemistry and Molecular Genetics (by Research)

Program Code: 5345
Commencement: Semester 1 or Semester 2
Units of credit: 48
Length of study: 1 year full-time or equivalent part-time
Entry requirement: A recognised 3 year Bachelor degree in biochemistry or related discipline. Admission also depends on the availability of approved supervision. Students with an Honours degree or higher and who have undertaken a significant research project would normally be directed to the MPhil, MSc by research or a PhD program depending on previous training.

Graduate Diploma in Microbiology and Immunology (by Research)

Program Code: 5355
Commencement: Semester 1 or Semester 2
Units of credit: 48
Length of study: 1 year full-time or equivalent part-time
Entry requirement: A recognised 3 year Bachelor degree in biotechnology or related discipline. Admission also depends on the availability of approved supervision. Students with an Honours degree or higher and who have undertaken a significant research project would normally be directed to the MPhil, MSc by research or a PhD program depending on previous training.

Provides opportunities to combine biochemistry, molecular biology, molecular genetics, molecular cellular biology, genomics, cancer biology and proteomics with other related areas. It provides advanced study for graduates who wish to obtain advanced training in the areas of biochemistry and molecular biology. The program is adapted to suit the needs and objectives of each student and the expectation is that they may progress to a higher degree research program. Students are required to complete two 6 UOC courses of 3rd year level or higher and will also undertake a significant research project supervised by an approved BABS supervisor or an affiliated institution.

This program is tailored according to the background and requirements of the individual student and they may progress to a higher research program. Areas of research include microbial genetics, microbial physiology, environmental microbiology, immunology, medical bacteriology and virology. Students are required to complete two 6 UOC courses of 3rd year level or higher and will also undertake a significant research project supervised by an approved BABS supervisor or an affiliated institution.

Contacts –
Coursework and Research
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### Master of Philosophy (Biotechnology and Biomolecular Sciences)

**Program Code:** 2475  
**Length of study:** 1.5 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 1 year.  
**Entry requirement:** A recognised Bachelor degree in a relevant area with > 65 (Credit) average or, for overseas applicants, a 1st Class degree or 4-year degree in a relevant discipline. Admission also depends on the availability of approved supervision.

The Master of Philosophy in Biotechnology and Biomolecular Sciences, MPhil (BABS), includes advanced study in all areas of biotechnology and biomolecular sciences providing students with a strong qualification through emphasis on research training supplemented with a substantial coursework component. This combination will provide information on and laboratory experience with modern, sophisticated techniques that apply to a wide range of biotechnology, microbiology, genetics, and molecular biology fields. Students complete a component of coursework including research methodology and a thesis comprising an original piece of research work, of a limited scope but at least 66% of the degree.

### Master of Science (by Research)

**Program Code:** 2460 (Biochemistry and Molecular Genetics), 2036 (Biotechnology), 2490 (Microbiology and Immunology)  
**Length of study:** 1.5 to 2 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 1.5 years.  
**Entry requirement:** The minimum entry requirement is a 4-year Bachelor degree with Honours or completion of a Bachelor degree and substantial laboratory experience. Admission also depends on the availability of approved supervision.

This program requires the completion of an original piece of research, more limited in scope and nature than PhD. Candidates develop mastery of appropriate methodology and learn the fundamentals of research. Findings are presented in a thesis that places the work in the wider context of their discipline.

### Doctor of Philosophy

**Program Code:** 1410 (Biochemistry and Molecular Genetics), 1036 (Biotechnology), 1440 (Microbiology and Immunology)  
**Length of study:** 3 to 4 years of advanced study leading to the submission of a thesis. Minimum duration for completion is 3 years.  
**Entry requirement:** The minimum entry requirement is a 4-year Bachelor’s degree with First or Upper Second Class honours or completion of a Bachelor degree and substantial laboratory experience. Admission also depends on the availability of approved supervision.

A PhD requires the completion of a piece of research that demonstrates a significant and original contribution to knowledge in the field of study. Candidates acquire advanced specialist research training under academic supervision. The candidates thesis summarises the research and provides evidence for independent thought and critical analysis, effective communication and expert knowledge of the discipline in the international context.