Biotechnology and Biomolecular Sciences (BABS)
The degrees offered by BABS promote a variety of career paths within, as well as outside of, the sciences. Our graduates work in both public and privately sponsored industries in areas ranging from production, quality control and research, to policy-making, management and education.

Our degrees have strong collaborations with industry and government bodies and provide excellent training in scientific methodology, empowering graduates to think creatively and solve problems – skills highly valued by employers. Scientific communication and presentation are emphasised within our degrees and give our graduates a competitive edge for careers in journalism, business and management.

About BABS at UNSW
Our research and teaching degrees fall within the disciplines of molecular biology, biochemistry, genetics microbiology, immunology, bioengineering, bioinformatics and biotechnology.

Undergraduate Degrees in Biotechnology and Biomolecular Sciences
Our dynamic three to four year degrees are designed to give you more rigorous training in the modern sciences, aimed at fostering an analytical approach to problem solving. The first year provides you with a strong foundation in biology, chemistry and mathematics, establishing a solid base of knowledge for advanced coursework relevant to each specialised degree. An optional Honours year can be undertaken with a credit average or above, involving a full-time research project supervised by research leaders.
The Biotechnology degree (UNSW code 3052) offers a comprehensive education in all aspects of this multidisciplinary field, leading to the award of a Bachelor of Science Degree in Biotechnology with Honours. Starting with an introduction to biotechnology, second-year studies cover molecular biology and microbiology with choices in chemistry or physiology. Third-year specialisations include medical biotechnology and immunology, with optional environmental biotechnology, environmental microbiology and microbial genetics. The fourth year comprises a research project and studies in commercial biotechnology and professional issues.

The Bioinformatics degree (UNSW code 3647) offers students the opportunity to enter a new and rapidly expanding field of science. Bioinformatics is an emerging discipline at the convergence of computing and the life sciences, focused on the development of technologies for storing, extracting, organising, analysing, interpreting and utilising biological information. Bioinformatics has risen to prominence with the analysis of the huge amounts of data generated by genome projects and postgenomic biology.

The Bioinformatics degree is jointly administered by the School of Biotechnology and Biomolecular Sciences and the School of Computer Science and Engineering. For 3970 Science, 3972 Advanced Science and 3991 Medical Science degrees, students may choose to specialise in the disciplines of biotechnology, genetics, microbiology, molecular and cell biology.
Postgraduate Research

Doctor of Philosophy (PhD) and Master of Science (MSc) research-based degrees are offered to qualified students who have completed a four-year undergraduate science degree with Honours or equivalent.

A Master of Philosophy in Biotechnology and Biomolecular Sciences (MPhil (BABS)) is a research-based degree that combines a 12-month research degree with 6 months of coursework. This training is designed to equip you with modern, sophisticated techniques that apply to a wide range of biotechnology and molecular biology fields. To be eligible to enrol, you need to have successfully completed a three-year undergraduate Science degree with an above credit average.

Graduate Diploma

This comprises a specialised one-year period of full-time study and research designed for graduates from overseas universities and those wanting to change their career directions to encompass biotechnology and molecular biological techniques.
Biotechnology and Biomolecular Sciences in the 21st Century

The 21st century poses many challenges, and biotechnology will provide some of the answers. Many industries recognise that biotechnology and biomolecular techniques are essential in their drive to achieve sustainability, reduce their environmental footprint and develop new cost-effective, environmentally friendly products. The 21st century will also see the further development of stem cell technologies and gene therapies for medical advances that will improve the quality of life, while cutting-edge, anti-ageing research will challenge the constraints of traditional life spans.

Careers Opportunities

Our graduates have highly successful careers in a huge variety of industries, ranging from science-based businesses to developments in water as well as in the legal and communications fields. Examples include:

- Scientific research
- Environmental microbiology
- Genetic engineering
- Diagnostic microbiology and immunology
- Pollution control
- Forensic science
- Beach ecology
- Patent law specialising in scientific patents
- Science journalism and publishing
- Antarctic exploration
- Fraud detection
- Australian quarantine and inspection services
- Medicine
- Government science policy making
A Student’s Perspective

James Krycer
Science Honours student in Molecular Biology
UNSW offers a lot of flexibility and choice in its Science degrees... Another thing I like about UNSW is that there are plenty of research opportunities for Science students.

Si Ming Man
Science Postgraduate student in Biochemistry
The most positive and satisfying experience at BABS was to be able to interact with highly talented academics who create an enriched and collaborative learning environment through group and poster presentations, consultancy projects and online discussions. The School encouraged me to immediately begin applying the knowledge I acquired in the context of current research to my undergraduate studies.

Kamila Nejedly
Science Honours student in Biotechnology
I decided to do a BSc (Hons) in Biotechnology because it’s part of an expanding area of research and technology... UNSW isolated it as a degree, not just a major.

Daisy Shu
Science Undergraduate student in BABS1201 Molecules, Cells and Genes
I expected the courses to be challenging because I hadn’t taken Biology in high school, however, the lecturers made the material easier to understand. The textbook, lecture notes and iLecture recordings were also helpful, and the pre-lab quizzes and tests held throughout the semester were especially useful. My whole BABS experience was very positive.

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The information contained in this publication applies to Australian Citizens, Australian Permanent Residents and New Zealand Citizens only. All International Students should contact the UNSW International Officer for further information at international.unsw.edu.au

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