



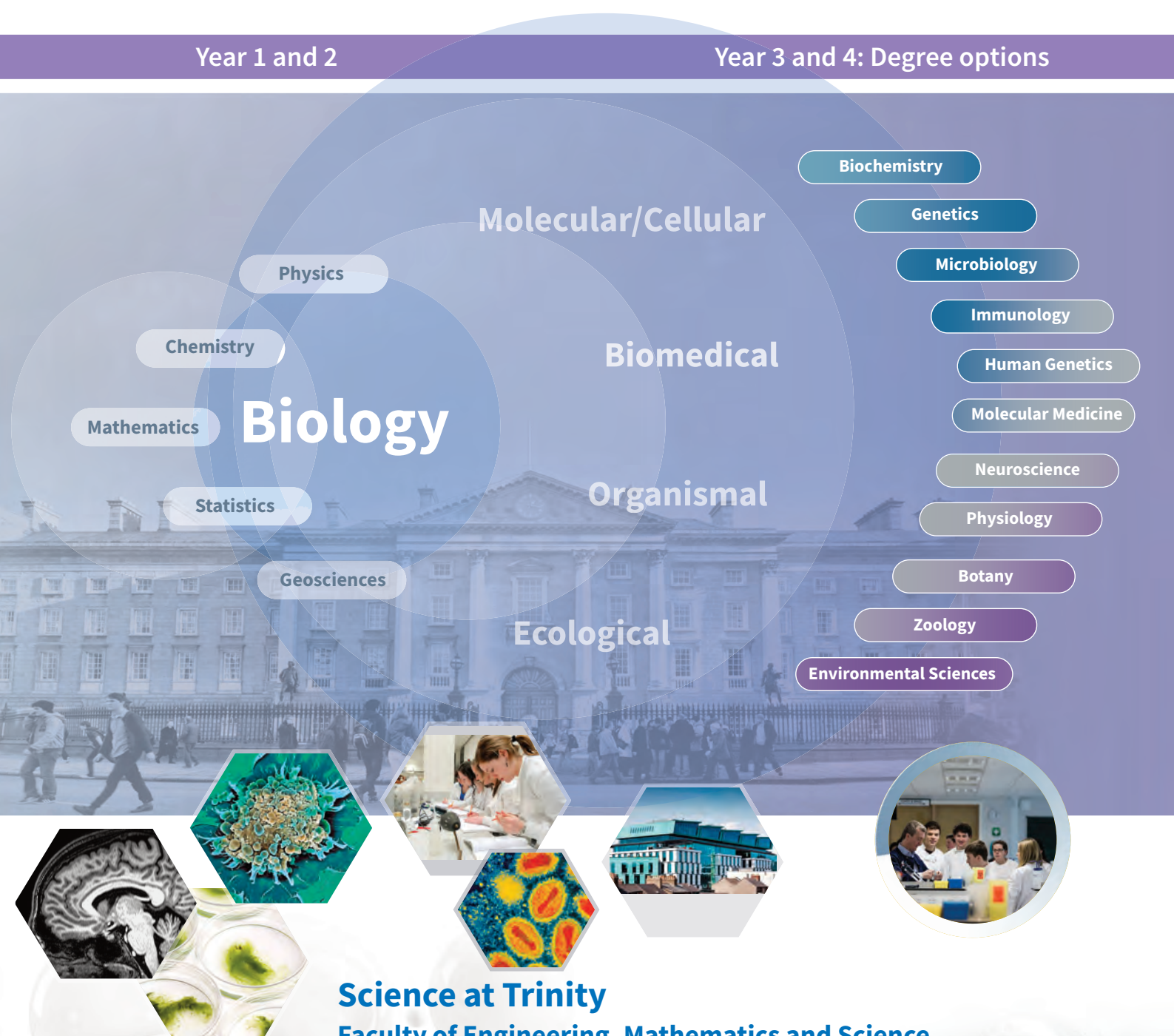
Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

TR060

# Biological and Biomedical Sciences

Year 1 and 2

Year 3 and 4: Degree options



**Biology is the study of Life**, in all its complexity and diversity. In Biology we explore how life first arose - the properties that distinguish living organisms from inert matter - how living organisms function and how the vast diversity of life forms was generated - how organisms

reproduce themselves and how they interact both with each other and with the environment. It is the discipline of science that is fundamental to our understanding of the natural world and of our place within it, and it is the foundation for modern medicine.

Course Code:  
Places 2022/23:  
Degree  
Awarded:  
Degree Type:  
NFQ:  
Awarding Body:

**TR060**  
**235**  
**B.A. (Moderatorship)**  
**Honours Bachelor**  
**Degree Level 8**  
**Trinity College Dublin,**  
**The University of Dublin**

[tcd.ie/science](https://tcd.ie/science)



**Modern biological science** is unravelling the mysteries of life, from the earliest origins of simple life forms to the workings of the human brain. It is helping us to meet the challenge of illnesses such as dementia and cancer, to defend against new viruses and drug-resistant bacteria, to feed a growing population, and

to protect ecosystems from climate change and other threats. It also offers new and exciting opportunities for personalised medicine with revolutionary technologies like precision genome editing, targeted design of new therapeutics, and brain-machine interfaces.



## Structure of the Biological and Biomedical Sciences (TR060) programme:

In the Biological and Biomedical Sciences Stream students will study the core concepts that are fundamental to all biological systems. These will be presented in core modules during the first two years and will include: cell structure and composition, genetics and evolution, molecular biology, metabolism, anatomy and physiology of bacteria, fungi, plants and animals, ecosystems and environmental biology. Students will also acquire mathematical, statistical and computational skills that are relevant for the analysis of biological systems. In addition, students have the opportunity both to expand their scientific knowledge and to pursue their individual interests by choosing from a cohort of approved and elective modules on topics such as foundation physics, geoscience, history and philosophy of science, cancer, infection and immunity, and behaviour.

In the third year, students specialize in one of the 11 moderatorships offered in this stream: Biochemistry; Botany; Environmental Science; Genetics; Human Genetics; Immunology; Microbiology; Molecular Medicine; Neuroscience; Physiology; Zoology. The fundamental concepts of that discipline will be presented in core modules while students will also select from a cohort of approved modules from allied disciplines that enhance understanding of their

chosen discipline and encourage interdisciplinary thinking and research. Students can also experience the wide range of knowledge and investigation available throughout the university by choosing an elective module from a selection that highlights major research themes from across all faculties. In the fourth year students choose from a selection of modules on advanced topics within their discipline. They will also undertake a research project in Trinity or in a research laboratory in another university, research institute or hospital. Throughout this program, students will also acquire skill in problem solving and data handling and in oral and written communication.

This program of science education is designed to foster and develop a student's capability for independent thought and effective communication, and an ability to continue their education independently and to act in a responsible manner. These attributes are a preparation for a career in science and medicine (e.g. in research, biotechnology, pharmaceutical industry, further medical training); for a career in related areas where a scientific education is beneficial (e.g. patent law, forensic science, journalism) and for careers in areas such as education, management, business, industry, communication and policy making.



**Ranked in the Top 98  
Universities in the World**  
(QS World University Rankings 2023)