

Microbiology

CAO code: DN200 Option: Biological, Biomedical and Biomolecular Science (BBB)



Microbiology student in a practical in the UCD O'Brien Centre for Science.

- Learn about microbes that cause diseases, clean up environmental spills and produce antibiotics
- Understand how we engineer fungi and bacteria to produce a vast array of compounds, ranging from antibiotics and hormones to washing powder

“ I found DN200 Science fantastic because I could try out all the subjects I liked before choosing my major. I found that I adored Microbiology. I am fascinated by how microorganisms can be manipulated to make such a wide assortment of valuable products – from antibiotics and crucial hormones like insulin to bioplastics and biofuels. I love seeing how what I've learned all these years is applied in real life in industry. I am now working as a Quality Control Microbiologist in Takeda Biologics Dunboyne. Without the leadership, teamwork and communication skills I learned while studying at UCD, I would not be here today. **Caoimhe Cullen, Graduate** ”



Sample pathway for a degree in Microbiology*

YEAR 1 ENGAGE WITH THE PRINCIPLES

BIOLOGY Modules include:	CHEMISTRY Modules include:	MATHEMATICS Modules include:	
<ul style="list-style-type: none"> Biology in Action Life on Earth Cell Biology & Genetics Biomedical Sciences 	<ul style="list-style-type: none"> The Basis of Organic and Biological Chemistry 	<ul style="list-style-type: none"> Mathematics for the Biological & Chemical Sciences 	<ul style="list-style-type: none"> One Elective module One Small-Group Project

YEAR 2 CHOOSE YOUR SUBJECTS

The subject combinations listed below are illustrative of what a student who graduates in Microbiology could choose in Year 2. Further subject combinations are possible depending on the choices in Year 1. Further information is available on page 19.

MICROBIOLOGY Modules include:	CELL & MOLECULAR BIOLOGY Modules include:	GENETICS Modules include:	
<ul style="list-style-type: none"> Chemistry for Biologists Molecular Genetics and Biotechnology Biomolecular Laboratory Skills Metabolic and Immune Systems Microbiology in Medicine, Biotechnology and the Environment 	<ul style="list-style-type: none"> Principles of Cell and Molecular Biology 	<ul style="list-style-type: none"> Principles of Genetics 	<ul style="list-style-type: none"> Two Elective modules

YEAR 3 FOCUS ON YOUR CHOSEN SUBJECT

MICROBIOLOGY – Modules include:			
<ul style="list-style-type: none"> Regulation of Gene Expression Microbial Cell Factory Applied Microbiology Microbial Diversity & Growth 	<ul style="list-style-type: none"> Microbial Physiology Medical Microbiology Skills in Microbiology Ecology & Environmental Microbiology 		<ul style="list-style-type: none"> Two Elective modules

YEAR 4 REFINE YOUR KNOWLEDGE

MICROBIOLOGY – Modules include:		
<ul style="list-style-type: none"> Microbiology Research Project/Internship Ecological & Environmental Microbiology 	<ul style="list-style-type: none"> Systems Microbiology Foodborne Pathogens Microbial Pathogenicity Bioprocessing 	<ul style="list-style-type: none"> Enzyme Technology & Protein Engineering Natural Product Synthesis Host Defense Mech. In Health

BSc (Honours) Microbiology

MSc (Taught)	PhD	Industry	Conversion Courses
<ul style="list-style-type: none"> MSc Biotechnology MSc Biotechnology & Business MSc Environmental Management MSc Regulatory Affairs & Toxicology MSc Plant Biology & Biotechnology MSc Biotherapeutics 	<ul style="list-style-type: none"> Students can pursue a PhD in universities in Ireland or abroad in areas as diverse as biotechnology, environmental biology, medical and veterinary sciences 	<ul style="list-style-type: none"> Pharmaceutical Companies Food and food-related companies (Veterinary) Hospitals and related laboratories Government agencies including the EPA and county councils 	<ul style="list-style-type: none"> Professional Master of Education (PME) Graduate Veterinary Medicine Graduate Medicine Medical Scientist

*See pages 4 and 5 for information on the terminology used above. Potential combinations shown here are examples only and are not guaranteed by UCD. Modules are subject to change each year.



www.ucd.ie/myucd/microbiology



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