

Cell & Molecular Biology

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

Sample pathway for a degree in Cell & Molecular Biology *

YEAR 1 ENGAGE WITH THE PRINCIPLES

<p>BIOLOGY Modules include:</p> <ul style="list-style-type: none"> ▶ Biology in Action ▶ Life on Earth ▶ Cell Biology & Genetics ▶ Biomedical Sciences 	<p>CHEMISTRY Modules include:</p> <ul style="list-style-type: none"> ▶ The Basis of Organic and Biological Chemistry 	<p>MATHEMATICS Modules include:</p> <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 Cell & Molecular Biology could choose in Year 2. Further subject combinations are possible depending on the choices in Year 1. Further information is available on page 19.

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

- Learn about the molecular basis of disease, the factors that influence normal cells becoming cancer cells, and the methods applied across the biomedical sciences
- Develop practical skills in microscopy, cellular assays and diagnostic techniques used in industry, hospitals and research labs
- Complete a research project in diverse areas such as cancer biology, drug delivery, genetic analysis and molecular imaging

YEAR 3 FOCUS ON YOUR CHOSEN SUBJECT

CELL & MOLECULAR BIOLOGY – Modules include:			
<ul style="list-style-type: none"> ▶ Advanced Cell Biology ▶ Hot Topics in Cell Biology ▶ Genetics 	<ul style="list-style-type: none"> ▶ Regulation of Gene Expression ▶ Developmental Biology ▶ Plant Cell Growth and Signalling 	<ul style="list-style-type: none"> ▶ Molecular Basis of Disease ▶ Working with Biological Data 	<ul style="list-style-type: none"> ▶ Two Elective modules

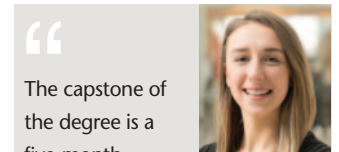
YEAR 4 REFINE YOUR KNOWLEDGE

CELL & MOLECULAR BIOLOGY – Modules include:			
<ul style="list-style-type: none"> ▶ Cell Biology Research Project ▶ Membrane Trafficking ▶ Programmed Cell Death 	<ul style="list-style-type: none"> ▶ Cell Signalling ▶ The RNA World ▶ Biological Imaging 	<ul style="list-style-type: none"> ▶ Human Genetics & Disease ▶ Cell Biology of Cancer ▶ Cell Biology of Ageing 	

BSc (Honours) Cell & Molecular Biology

MSc (Taught)	PhD	Industry	Conversion Courses
<ul style="list-style-type: none"> ▶ MSc Biological & Biomolecular Science (NL) ▶ MSc Molecular Medicine ▶ MSc Biotechnology ▶ MSc Biotechnology & Business ▶ MSc Plant Biology & Biotechnology 	<ul style="list-style-type: none"> ▶ Students can pursue a PhD in universities in Ireland or abroad in areas as diverse as cell & molecular biology, biochemistry, genetics, systems biology and biomolecular science 	<ul style="list-style-type: none"> ▶ Pharmaceutical and Biotechnology companies ▶ Semi-State bodies such as BIM, Teagasc ▶ Hospital laboratories ▶ Genetic Counselling ▶ Forensic Science 	<ul style="list-style-type: none"> ▶ Professional Master of Education (PME) ▶ Graduate Veterinary Medicine ▶ Graduate Medicine ▶ Master of Management

*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.



The capstone of the degree is a five-month research project where we gain hands-on experience of research. I developed a deep interest in the study of rare human diseases, and I am now a postdoctoral research scientist in the UCD Centre for Arthritis Research. My work focuses on identifying the genetic and biological cause of a rare paediatric auto-inflammatory condition that has been identified in a number of Irish families.

Dr Niamh Morgan, Graduate