

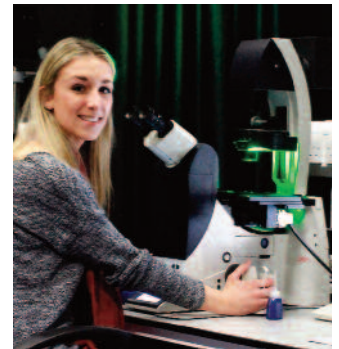
# Cell & Molecular Biology

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><b>BIOLOGY</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ Biology in Action</li> <li>▶ Life on Earth</li> <li>▶ Cell Biology &amp; Genetics</li> <li>▶ Biomedical Sciences</li> </ul>	<p><b>CHEMISTRY</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ The Basis of Organic and Biological Chemistry</li> </ul>	<p><b>MATHEMATICS</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ Mathematics for the Biological &amp; Chemical Sciences</li> </ul>	<ul style="list-style-type: none"> <li>▶ Two Elective modules</li> <li>▶ One Small-Group Project</li> </ul>
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Niamh Morgan studying mammalian cells under a fluorescence wide field microscope.  
Image by Niall Hayes © UCD

### YEAR 2 CHOOSE YOUR SUBJECTS

<p><b>CELL &amp; MOLECULAR BIOLOGY</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ Biological Systems</li> <li>▶ Principles of Cell Biology</li> <li>▶ Principles of Genetics</li> <li>▶ Chemistry for Biologists</li> <li>▶ Biomolecular Laboratory Skills</li> </ul>	<p><b>MICROBIOLOGY</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ Metabolic and Immune Systems</li> <li>▶ Principles of Microbiology</li> </ul>	<p><b>GENETICS</b> Topics include:</p> <ul style="list-style-type: none"> <li>▶ Principles of Genetics</li> <li>▶ Molecular Genetics and Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>▶ Two Elective modules</li> </ul>
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- Learn why healthy cells become cancerous, what happens at a cellular level in diseases and the basic concept of genetics
- Develop practical skills in microscopy, cellular assays and diagnostic techniques used in industry, hospitals and research labs

### YEAR 3 FOCUS ON YOUR CHOSEN SUBJECT

<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Advanced Cell Biology</li> <li>▶ Research Methods in Cell Biology</li> <li>▶ Genetics</li> </ul>	<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Regulation of Gene Expression</li> <li>▶ Developmental Biology</li> <li>▶ Plant Cell Growth and Signalling</li> </ul>	<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Molecular Basis of Disease</li> <li>▶ Working with Biological Data</li> </ul>	<ul style="list-style-type: none"> <li>▶ Two Elective modules</li> </ul>
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### YEAR 4 REFINE YOUR KNOWLEDGE

<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Membrane Trafficking</li> <li>▶ Programmed Cell Death</li> <li>▶ Cell Signalling</li> </ul>	<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Epithelial Transport</li> <li>▶ Biological Imaging</li> </ul>	<p><b>CELL &amp; MOLECULAR BIOLOGY</b> – Topics include:</p> <ul style="list-style-type: none"> <li>▶ Cell Biology Research Project</li> <li>▶ Human Genetics &amp; Disease</li> </ul>
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## BSc (Honours) Cell & Molecular Biology

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


\*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. Topics are subject to change each year.

“ Upon completion of my Cell and Molecular Biology degree, I pursued a Masters in Management at University College London, with the intention to combine both to eventually manage a venture capital trust with a pharmaceutical focus. My degree has given me the necessary skills to carefully interpret and assess existing literature, problem solve, critically evaluate, and manage my time effectively. ”

**Paula Burke, Graduate**

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