MSc Biological & Biomolecular Science
(Negotiated Learning) (1 Year Full Time)

The MSc in Biological and Biomolecular Science by Negotiated Learning will broaden your understanding of biological and biomolecular science against a backdrop of learning core technical, methodological and innovation skills relevant to industry and academia. Taught modules from several innovative specialisations are available from the UCD School of Biomolecular and Biomedical Science and the UCD School of Biology and Environmental Science. The programme provides students with an exciting prospect of studying and researching in the interdisciplinary fields of genetics, cell biology, biochemistry, molecular biology, microbiology and biodata analysis. Guidance from expert faculty is provided to tailor a programme that will meet the anticipated requirements of the student’s objectives and career goals.

This MSc in Biological and Biomolecular Science is the first of its kind offered in Ireland by Negotiated Learning.

### Course Content and Structure

<table>
<thead>
<tr>
<th>90 credits taught masters</th>
<th>30 credits core laboratory skills</th>
<th>+</th>
<th>20 credits core professional skills</th>
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<th>40 credits taught modules</th>
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<td>Course divided into:</td>
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<td>Core Laboratory Research Skills (30 credits)</td>
<td>including techniques such as RT-PCR, western blotting and Advanced Fluorescence Imaging.</td>
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<td>Core Professional Taught Skills Modules (20 credits)</td>
<td>including career development, quantitative tools, science writing and communication skills and data management.</td>
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<td>Optional Taught modules (40 credits)</td>
<td>involves selecting one of the following specialisations and selecting specific modules within these that meet the student’s learning objectives.</td>
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The Specialisations Available:

- **Genetics and Cell Biology:** investigates cancer biology, the genetic basis of disease, ageing, cellular signalling, cellular trafficking and transport, model organisms, etc.
- **Microbiology and Infection Biology:** investigates mechanisms of pathogenic micro-organisms, host response to infection, immunopathologies, host-pathogen interactions, development of diagnostics, applied microbiology, etc.
- **Biochemistry and Synthetic Biology:** investigates metabolism and disease, protein-protein interactions, cell signalling, protein structure and analysis, etc.

Modules and topics shown are subject to change and are not guaranteed by UCD.

### Career Opportunities

This programme will enable you to choose from a wide range of careers and areas of postgraduate study. This multi-disciplinary course provides a solid grounding for careers in industry, health and research, such as Quality Assurance, Quality Control, Microbiology, Process control, Technical Transfer, Research and Development, and Regulatory Affairs, Scientific Editor or Writer, Lab Technician or Analyst roles.

An academic staff member will advise you on a specialisation and module choices based on the opportunities you hope to unlock.

### Entry Requirements

- This programme is intended for applicants who have at least an upper second class honours degree, or the international equivalent, in a life science or chemical science. Examples of an appropriate BSc subject include, but are not restricted to, Biotechnology, Biology, Biochemistry, Microbiology, Genetics, Neuroscience, Physiology, Pharmacology, Immunology, Pharmaceutical Chemistry and Medicinal Chemistry.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent, such as TOEFL (iBT) score of 90 or PTE score of 63. Applicants with an IELTS score of at least 5.5 may apply for admission to the UCD Pre-Masters Pathway programme.

### Faculty Profile

**Dr Joanna Kacprzyk, Lecturer in Cell Biology & Genetics, UCD School of Biology and Environmental Science**

My research is focused on the mechanisms governing cell fate decisions between programmed cell death and survival pathways. Using both plant and mammalian cell culture systems I use fluorescence microscopy, enzymatic assays and RT-PCR to characterise the cellular responses to stress stimuli.