



University College Dublin
Ireland's Global University



MSc Plant Biology & Biotechnology (1 Year Full Time)

Government and private companies are working to develop new ways to improve existing food and animal feed crops, and to develop novel crops to meet future challenges. The last decade has seen rapid developments in our understanding of plants and their significance to our wellbeing and this has been achieved through advances in a range of disciplines including genetics, genomics, cell biology, physiology, ecology and studies on climate change. Graduates of this one-year MSc will be equipped with the knowledge and skills in these

recent advances to rise to the future challenges in academia, industry and policy development. Innovation and entrepreneurship permeate the course as central themes and, in addition, a specific module on entrepreneurship in plant biology is delivered. This MSc covers a wide diversity of both topics and approaches, and is taught by a high-profile research-oriented group of academics. Students will have full involvement in active research groups and access to, and experience of, a large array of state-of-the-art facilities and technologies.

Why study at UCD?



Tradition

Established 1854, with 160 years of teaching & research excellence



Global profile

UCD is ranked in the top 1% of higher education institutions worldwide



Global community

Over 6,000 international students from over 120 countries study at UCD



Global careers

Degrees with high employability; dedicated careers support; 1 year stay-back visa



Safety

Modern parkland campus with 24 hour security, minutes from Dublin city centre

Key Fact

Researchers from the UCD School of Biology and Environmental Science represent the single largest grouping of plant scientists in Ireland, with research interests ranging from genetics and molecular biology of the cell to plant physiology and ecology. They actively work with organisations such as Coillte (Forestry), the Irish Agricultural and Food Development Authority (Teagasc), the Department of Agriculture, Food and the Marine, and industry partners.

Course Content and Structure

90 credits
taught masters

60 credits
taught modules

30 credits
research project/minor thesis

Modules include:

- Entrepreneurship in Plant Biology
- Current Developments in Plant Biology
- Plant Pathology and Biotechnology
- Plant-Atmosphere Climate Interactions
- Plant Development
- Programmed Cell Death in Plants
- Future Crops and Sustainability
- Insect-Plant Interactions
- Biological Invasions
- Ecological Significance of Different Photosynthetic Pathways
- Plants and Stress



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

Career Opportunities

Graduates will have a distinct advantage when applying for PhD studentships or other more advanced graduate training in the area of plant biology and biotechnology. This MSc is ideal for graduates interested in pursuing scientific careers in academia, agriculture and plant science-based or biotechnology industries. Graduates will have opportunities to pursue postgraduate education and research and work in areas such as plant biotechnology, scientific journalism/publishing and for government agencies involved in governmental and non-governmental policy.



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Fees and Scholarships

Tuition fee information is available on www.ucd.ie/fees. Please note that UCD offers a number of postgraduate scholarships for full-time, self-funding international students, holding an offer of a place on masters programmes. Please visit www.ucd.ie/international/scholarships for further information.

Accommodation

UCD has accommodation for over 2,500 students across five locations. Places are limited and more information is available at www.ucd.ie/residences/. For information and advice on living off campus, please contact the UCD Residences Off-Campus Office or the UCD Student Union Accommodation Services. Please visit www.ucd.ie/residences/accommodation-booking-support/ for further details.

Related Masters Programmes of Interest

- MSc Biotechnology
- MSc Biotechnology & Business
- MSc Applied Environmental Science
- MSc Environmental Sustainability

Facilities and Resources

- UCD Rosemount Environmental Research Station
- Controlled plant growth facility and bioreactors
- Plant Metabolomics Technology Platform
- Plant Cell and Tissue Culture Facility

Apply Now

This programme receives significant interest so please apply early online at www.ucd.ie/apply

Entry Requirements

- This programme is intended for applicants with a BSc in an appropriate life science discipline. An upper second class honours or international equivalent is required. However, in certain cases/circumstances, applicants with lower second class honours will also be considered. Applicants whose first language is not English must also demonstrate English proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent.

Staff Profiles

Associate Professor Carl Ng, UCD School of Biology and Environmental Science, University College Dublin



My research focuses on understanding the signalling processes underlying the responses of plants and crops to abiotic stresses. The aim is to understand plant cellular strategy for adapting to changing environmental conditions and how temporally dynamic gene expression systems can confer evolutionary advantages during the colonisation of land by plants.

Associate Professor Paul McCabe, UCD School of Biology and Environmental Science, University College Dublin



The MSc students are actively engaged in our research programmes and my research group is involved in trait selection at the single cell level. For example, somatic embryogenesis is a propagation technique that can solve problems associated with tree breeding such as long reproductive cycles. Using somatic embryogenesis to improve tree breeding has the potential to dramatically increase forest

productivity. We are collaborating with Coillte on research to increase the embryogenic potential of several important commercial species.

EU Enquiries

Associate Professor Carl Ng ✉ : futurecrops@ucd.ie

☎ : + 353 1 716 2250

www.ucd.ie/courses/msc-plant-biology-biotech

Non-EU Enquiries

✉ : internationaladmissions@ucd.ie

www.ucd.ie/international

UCD School of Biology and Environmental Science, University College Dublin, Belfield, Dublin 4

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