MRES (MASTER OF RESEARCH) IN BIOTECHNOLOGICAL ENGINEERING (NOT ON OFFER 23/24)

Overview

The MRes in **Biotechnological Engineering** is a full-time programme running over 12 months or part-time over 24 months from the date of first registration for the programme. Applications will be accepted for a start date in July. The programme consists of:

1. a major research thesis
2. taught modules on disciplinary subjects, and
3. modules on generic and transferable skills, with an emphasis on scientific writing, oral presentations, and general research skills.

Part-time study for this programme is available over 24 months from the date of first registration for industry-based projects, with the permission of the Programme Director.

See also Procedures for Submission and Examination of Research Masters Degrees (https://reg.ucc.ie/curriculum/calendar/live/postgraduate/Masters/Procedures%20for%20Submission%20and%20Examination%20of%20Research%20Masters%20Degrees.pdf).

Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

Programme Requirements

Code	Title	Credits
Students take **90** credits as follows - taught modules (**20** credits) and a Major Research Thesis (**70** credits):		
Taught Modules		
Elective Modules		
Students take modules to the value of **20** credits from the following: [1,2]		20
MB6004	Advanced Molecular Microbial Biotechnology (5)	
ML6005	Molecular Techniques in the Life Sciences (5)	
PE3014	Food and Bioprocess Engineering (5)	
PE6008	Bioprocess Engineering (10)	
PE6001	Methods of Data Analysis in Process and Product Development (5)	
PG6001	STEPS - Scientific Training for Enhanced Postgraduate Studies (5)	
PG6009	Graduate Information Literacy Skills (5)	
PG6014	Scientific Outreach and Communication (5)	
PG6015	An Introduction to Research Integrity, Ethics and Open Science (5)	
Research		
Thesis (25,000 words) [3]		70
Total Credits		**90**

[1] Students choose elective modules in consultation with their research supervisor(s) and may elect to take other, relevant modules that are not listed above to fulfil the elective requirement with approval from the MRes coordinator and research supervisor(s).

[2] Students should select at least one module (5 credits) each with an MB/ML code, a PE code and a PG code, or equivalent as per note 1 above.

[3] Students will also undertake independent research towards completion of a research thesis to a student workload equivalent of **70** credits on a selected topic in Biotechnological Engineering.

Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.

Programme Learning Outcomes

Programme Learning Outcomes for MRes (Master of Research) in Biotechnological Engineering (NFQ Level 9, Major Award)
On successful completion of this programme, students should be able to:

- Carry out an independent and original research project to address a relevant question in Biotechnological Engineering.
- Prepare and write a dissertation of a research project in a critical, logical and systematic manner, in keeping with the standards of postgraduate research.
- Display advanced theoretical knowledge and practical understanding within the area of Biotechnological Engineering.
- Understand the basis, application and limitations of laboratory methods used in Biotechnological Engineering.
- Source, review, critically assess and evaluate relevant primary literature and summarise material for presentation to peers and for inclusion within the research dissertation.
- Design, write and defend a scientific research proposal based on their current research or another proposed topic.
- Evaluate their own skill set and identify skills that should be acquired.

- Demonstrate professional practice skills including team-work, negotiation, time-management, scientific writing and oral communication.