

MSC (BIOTECHNOLOGY)

Overview

NFQ Level 9, Major Award

The MSc (Biotechnology) is a full-time intensive course running for 12 months from the date of first registration for the programme.

The programme will consist of lectures, tutorials, and set practical sessions, with the emphasis on training in modern biotechnology in the workplace. The MSc Degree (Biotechnology) is awarded to successful candidates after passing written examinations across all eight taught modules, the continuous assessment of practical work and a six-month research project (BT6005 Dissertation in Biotechnology), which has to be written up in the form of a dissertation and approved by the external examiner.

Postgraduate Diploma in Biotechnology

Students who attain a pass (40%) across the taught modules, but do not reach the 50% threshold required to progress to the research dissertation will be conferred with a Postgraduate Diploma in Biotechnology (<https://ucc-ie-public.courseleaf.com/programmes/pdbty/#programmerequirementstext>). Similarly, students who pass the taught modules and do not wish to complete the research dissertation may opt to be conferred with a Postgraduate Diploma in Biotechnology.

Programme Requirements

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

Programme Requirements

Students take **90** credits as follows:

Code	Title	Credits
Taught Modules		
Students take 60 credits as follows:		
<i>Core Modules</i>		
BC6001	Cell and Molecular Biology	5
BT6001	Genetic Engineering	5
BT6004	Skills Based Education and Training in Biotechnology	10
CM6011	Modern Methods in Analytical Chemistry	5
MB6003	Functional Foods for Health	5
MB6004	Advanced Molecular Microbial Biotechnology	5
PF6301	Biopharmaceuticals: Formulation, Secondary Processing and Regulation	10
PS6001	Plant Genetic Engineering	5
PE6008	Bioprocess Engineering	10
Research		
Students take 30 credits as follows:		
<i>Core Modules</i>		
BT6005	Dissertation in Biotechnology	30
Total Credits		90

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 MSc (Biotechnology) (NFQ Level 9, Major Award)

On successful completion of this programme, students should be able to:

- Discuss the theory and practice of biomanufacturing;
- Review Molecular Biotechnology, Bioanalytical Processes, Eukaryotic-, Prokaryotic- and Plant-Biotechnologies, recombinant DNA technologies and their application in the Biotechnology and Biopharmaceutical Industries;
- Apply fundamentals in Process and Biochemical Engineering to the Biotechnology sector;
- Outline the role of Process Validation and Quality Assurance in the biopharmaceutical industry;
- Discuss the latest trends in good manufacturing, laboratory and validation practices;
- Complete a body of independent research in a biotechnology-related area and present research findings in a minor dissertation.