MSC (BIOTECHNOLOGY)

Overview

Status: Active National Framework Of Qualifications (NFQ) Level: 9 NFQ Award Class: Major Award Duration Full Time: 1 Academic Year(s) Total Credits: 90 Delivery Method: In-Person

Connected Curriculum:

- Employability
- Global Reach
- Inter-and Transdisciplinary
- Research Based Teaching
- Sustainability

Sustainable Development Goals (SDGs):

- Good Health and Well-being
- Quality Education
- · Decent Work and Economic Growth
- · Industry, Innovation, and Infrastructure
- Responsible Consumption and Production

Graduate Attributes:

- Creator, evaluator and communicator of knowledge
- Digitally Fluent
- · Independent and creative thinker
- Socially Responsible

Work-Integrated Learning (Including Placement):

Yes

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, workshops, and set practical sessions, with the emphasis on educating and training of students for modern biotechnology in the workplace. The MSc Degree (Biotechnology) is awarded to successful candidates after passing written examinations and/or continuous assessment across all eight taught modules, and completion of a six-month work placement during which time, students execute a programme of investigative work related to the theory and/or practice of biotechnology (BT6005 Dissertation in Biotechnology) which is written up as a dissertation.

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 investigative work related to the theory and/or practice of biotechnology 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:	
Core Modules		
BT6007	Practitioner Based Skills in Biotechnology	5
BC6001	Cell and Molecular Biology	5
BC6016	Introduction to Advanced Therapy Medicinal Products	10
PF6301	Biopharmaceuticals: Formulation, Secondary Processing and Regulation	10
BC6015	Cell and Gene Therapy	5
PE6008	Bioprocess Engineering	10
BC6017		5
BC6013	Laboratory-based Technical and Analytical Skill	s 10
Research		
Students take 30 credits as follows:		
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 investigative work in a biotechnology-related area and present research findings in a minor dissertation.
- Demonstrate competency in the performance, application and documentation of biopharmaceutical-related techniques in the laboratory.