

POSTGRADUATE CERTIFICATE IN INDUSTRIAL BIOTECHNOLOGY AND BIOMANUFACTURING

Overview

NFQ Level 9, Minor Award

Exit Award only

Students on the Postgraduate Diploma in Industrial Biotechnology and Biomanufacturing (<https://ucc-ie-public.courseleaf.com/programmes/pdibb/>) programme who successfully complete taught modules to the value of at least 30 credits may choose to exit the programme and be awarded a Postgraduate Certificate in Industrial Biotechnology and Biomanufacturing.

Programme Requirements

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

Code	Title	Credits
Students complete modules to the value of 30 credits from the following:		
<i>Core Modules</i>		
MB6004	Advanced Molecular Microbial Biotechnology	5
MB6015	Microbial Strain Engineering	
MB6016	Microbial Physiology in Bioreactors	
MB6017	Biorefinery concepts for the bio-based economy	
PE6037	Experimental Design and Data Analysis for Bioprocessing	5
PE6038	Industrial Bioprocessing Systems	5
PE6039	Manufacturing Excellence in the Bioprocessing Industries	5
PE6042	Sustainable Biochemical Engineering	5
PE6040	Engineering principles and operation of microbial bioprocesses	10
PE6041	Bioprocess Design Studio	10

Programme Learning Outcomes

Programme Learning Outcomes for the Postgraduate Certificate in Industrial Biotechnology and Biomanufacturing (NFQ Level 9, Minor Award)

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

- Appreciate the importance of the societal aspects of industrial biotechnology, including concepts like the regulatory environment, ethical research, and safe and sustainable by design
- Work collaboratively and effectively in a team to solve defined challenges
- Describe the selection, design, construction and development of microbial strains for application in biotechnology
- Explain the importance of Integrating strain and bioprocess development in an holistic way by combining biological and engineering principles
- Critically evaluate the parameters required for bioprocess development including concepts like techno-economic feasibility and Life Cycle Assessment