



NUI Galway
OÉ Gaillimh

MSc Biotechnology



This MSc aims to provide you with the skills and knowledge necessary to pursue a successful career in biotechnology. Through tutorials, lectures, assignments and a 5-month research project, the course focuses on the development and application of biological processes in research, commercial and industrial settings. The programme is suitable for applicants who have a primary degree in Biological Sciences and wish to develop a career in a sector of high employment.

Key Features

- Emphasis on developing biotechnology and business skills.
- Choice of industrial or research focussed streams.
- Small group tutorials.
- Five-month laboratory project to develop and build research expertise as a member of a scientific research team.

Employment and Career Opportunities

A wide range of career options exist for graduates of this programme, such as employment in pharmaceutical industries, diagnostic services and academic research. Furthermore this programme is a springboard to PhD research opportunities. Our recent graduates have found employment with Abbott, Allergan, Aqualab, Boston Scientific, ICON Clinical Research, Mylan, Norbrook Laboratories, Pfizer, PPD and Regeneron. They are pursuing careers in manufacturing, quality assurance, product development and research, as well as in the broader sectors of sales, marketing and regulatory affairs.

Course Directors: Dr Aoife Boyd & Dr Cindy Smith

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www.nuigalway.ie/courses/taught-postgraduate-courses/biotechnology.html

Eligibility, Application & Selection Process

Course level: Level 9

Duration: 1 year, full-time

Entry requirements: Candidates must hold at least a Second Class Honours Level 8 (or equivalent international qualification) primary degree in Science or a related subject, with a strong background in Biological Sciences. Applicants whose first language is not English must demonstrate English language proficiency of IELTS 6.5 (no band less than 6 in each element) or equivalent. Entry to the programme is competitive.

Places available: 8-10

Fees: Current fees are €6,815 (EU) and €13,750 (non-EU), and are likely to remain at this level for 2016-2017.

Applying:

- Applications are made online via the Postgraduate Applications Centre (www.pac.ie/nuigalway).
- The following documentation must be supplied:
 - A Curriculum Vitae (CV)
 - A personal statement of approximately 600 words explaining why the applicant wishes to undertake the MSc Biotechnology programme and how the programme fits into their career objectives
 - Academic transcripts, unless the applicant is a graduate or current student of NUI Galway
 - Evidence of English language competency, for applicants whose native language is not English
 - A copy of your Birth certificate and/or passport
- All documents can be uploaded via your PAC account. In addition original or certified copies of academic transcripts must be sent by regular post to the PAC Offices, 1 Courthouse Square, Galway, Ireland.

PAC Code: GYS04 (full-time)

Closing date: Closing date for receipt of completed applications and all supplementary documents is **June 3rd 2016**.

Candidate selection: Selection of candidates is based on examination record, previous relevant experience, personal statement and performance at interview. Short-listed candidates may be invited for interview in June/July.

Programme Outline & Structure

90 ECTS
Taught
Masters

50 ECTS
Taught
Modules

40 ECTS
Biotechnology
Research Project

Core Modules:

Research Project

A 5-month laboratory project within an academic research team on a subject related to biotechnology.

Frontiers in Biotechnology

This is an interactive tutorial-based module that will develop students' transferable skills and knowledge of recent advances in biotechnology.

Current Methodologies in Biotechnology

Experts will teach methodologies fundamental to biotechnological research and applications. Skills will be developed during the research project.

Introduction to Business

This module outlines the concepts of marketing, management, accountancy and their application in Irish and international business situations. Teams of students develop a business plan for a start-up biotechnology enterprise.

Fundamental Concepts in Pharmacology

This module introduces students to fundamental pharmacological concepts of pharmacodynamics and pharmacokinetics of drug interactions in the body.

Protein Technology

Topics include industrial scale-up of protein production, proteomics and glycobiology.

Diagnostic Biotechnology

A comprehensive overview of immunological and molecular diagnostics applied in current biotechnological applications.

Optional Modules (Choose 2):

Advanced Industrial Processes

This module is designed to develop an awareness of microbial technologies and their applications to biotechnology.

Applied Concepts in Pharmacology

This module introduces students to autonomic pharmacology and drug discovery and development.

Scientific Writing

This module aims to provide students with an in-depth understanding of the process of scientific publication such as writing and reviewing articles.

Immunology

This module emphasises on the clinical value of manipulating the immune system as well as the clinical implications of immunological dysfunction.

Quality Management Systems

Quality management systems essential for the efficient and safe running of commercial and industrial biotechnology enterprises are taught in this module.

Cell & Molecular Biology: Advanced Technologies

This module outlines the fundamentals of cell & molecular biology.

* Please note that the curriculum information is subject to change from year to year.



Student Testimonial

Liam Higgins

MSc Biotechnology graduate

Microbiology Technician at Aqualab, Killybegs, Co. Donegal.

The MSc. in Biotechnology at NUI Galway gave me the opportunity and confidence needed to move ahead in my career. I completed the course in 2013 and gained employment within one month; working as a microbiology technician. A beautiful and

atmospheric campus setting, along with classmates from different academic backgrounds and very helpful and approachable lecturers make this programme a stimulating and worthwhile experience. For my research project I was based in the Genetics and Biotechnology Lab, which allowed me the opportunity to learn from and work with passionate scientists whose encouragement and dedication inspired me greatly. The theoretical knowledge coupled with the practical skills acquired from this programme allowed for the comfortable transition from academia to industry. Completing the MSc. in Biotechnology will open a range of career opportunities and I highly recommended it.