

2017



MSc IN BIOPHARMACEUTICAL SCIENCE (ONLINE)



NIBRT in association with IT Sligo



Why study this course?

The MSc was developed by NIBRT (National Institute for Bioprocessing Research & Training) and IT Sligo, in extensive collaboration with Industry, to identify and address the current and future needs of the biopharma sector.

Biopharmaceuticals is a rapidly growing sector within the life-sciences industry with immense opportunities for graduates. Global manufacturing of biopharmaceuticals has increased significantly over the last decade. At the core of the programme is the development of industrially-relevant practical skills.

This programme will provide you with a comprehensive understanding of the principal scientific and engineering challenges in manufacturing of biopharmaceutical products.

As a result graduates can look forward to a wide range of career opportunities in a large and growing industry. The MSc is delivered online, on a part-time basis with elective practical placements in NIBRT, Dublin, Ireland.

Upon completion you will have achieved an internationally recognised qualification which is highly relevant to the biopharma industry.

THE PROGRAMME OBJECTIVES ARE AS FOLLOWS:

- 1 Provide scientists/engineers with a comprehensive grounding in critical aspects of biopharmaceutical processing and support activities, with specific focus on the product life cycle of biopharmaceutical products/processes.
- 2 Explore and encourage participants to develop the competencies and key skills to be employed in technical/managerial roles within the growing biopharmaceutical industry.
- 3 Foster the participant's intellectual development in academic and industrial environments.
- 4 Develop the participant's skills to work and communicate with autonomy and effectively through various media.



“ This MSc programme had a very significant impact on my career development, and not just from qualifying. The advantages started from when I enrolled. To be able to tell senior management that I was studying for an MSc qualification was very beneficial career-wise. ”

F.O'Donovan, MSD

PROGRAMME DETAILS

AWARD	DURATION	ECTS CREDITS	EU STUDENTS
MSc	30 months part-time	90 credits	€12,000
Post Graduate Diploma	24 months part-time	60 credits	€10,000
Certificate	12 months part-time	30 credits	€6,000

Time commitment

The MSc consists of a 24 month part-time Post Graduate Diploma with an additional 6 months for a research project. Exit awards are available at Postgraduate Diploma and Certificate level.

Start dates

Annually in January and September.

Delivery

Online with elective practical placements in the NIBRT facility.

Assessment

Online examinations, projects, assignments, practical assessments and on-line viva voce.

Accreditation

IT Sligo has authority from QQI (Quality and Qualifications Ireland) to grant educational awards at Masters level.

These awards form part of the ECTS (European Credit Transfer and Accumulation System) system and are part of the Bologna Agreement and are recognised worldwide.



CORE MODULES: ONLINE (5 ECTS)

▶ Fermentation and Cell Culture Processing
Legislation / Regulatory Affairs

▶ Protein Purification Processing Bio
contamination Control

▶ Biopharmaceutical Analytical Techniques
Lean Sigma for Biopharma

▶ Biovalidation Research Methods

ELECTIVE MODULES	CREDITS	DELIVERY
Cell Culture Processing Lab	5	Practical*
Protein Purification Processing Lab	5	Practical*
Biopharmaceutical Analytical Techniques Lab	5	Practical*
Bioprocess Scale-up and Technology Transfer	5	Online
Formulation and Delivery Systems	5	Online
Advanced Bioprocessing Technologies	10	Practical *
Biopharma Drug Discovery and Development	5	Online
Project Management for Biopharma	5	Online
Facility Design and Operations	5	Online
Utilities for Biopharma	5	Online

* Accredited practical placements are delivered in NIBRT's award winning training facility. It is highly recommended that students select these practical modules.

** Bioprocess engineering online modules are delivered in partnership with Villanova University, USA.

Elective modules will be confirmed based on minimum numbers.

“ Ireland is rapidly becoming a very important centre for the global biopharmaceutical sector. A highly skilled workforce will be essential to support this. PharmaChemical Ireland is glad to see NIBRT playing such a valuable role providing the necessary training for these employees. ”

Matt Moran

Director, BioPharmaChemical Ireland



HIGHLIGHTS OF THE MSC PROGRAMME INCLUDE THE FOLLOWING:

- ▶ Online delivery using the best practices in online learning offering you flexibility of both time and location
- ▶ Extensive hands-on practical experience at the award winning NIBRT facility in Dublin (optional)
- ▶ Strong industry focus on the latest developments in biopharmaceutical manufacturing including full product characterisation, single use technologies, PAT/QbD
- ▶ Flexible, modular course choices to accommodate the pace of learning that suits you
- ▶ Industry case-studies by experts from the world's leading biopharma companies

WHAT WILL YOU LEARN?

The MSc programme consists of eight core industry directed modules (40 credits), up to four elective modules (20 credits) and a research project (30 credits).

INTERNATIONAL APPLICATIONS

If English is not your native language, proof of your proficiency in English will be required, unless you took your primary degree through English in an English speaking country.

“ I would recommend this course to anyone interested in broadening their knowledge in the Biopharmaceutical area as it covers a broad range of key areas within this sector as well as incorporating laboratory practical days in the NIBRT training facility in Dublin. The online lecture delivery of this course was very user-friendly and facilitated my participation in this course which was being delivered on the other side of the country. I was able to study at my own pace and in my own home. The learning environment incorporates interactive tools so that I could partake in group discussions with my classmates and there was always someone available to provide assistance. ”

Socrcha Byrne

Scientist in Biopharm at PPD

RESEARCH PROJECT

The research thesis topic must be related to the biopharmaceutical field of study and where appropriate may be based on a problem or case-study that is of particular interest to the student. Individual supervision will be given to each student by NIBRT and IT Sligo lecturers.



CAREER OPPORTUNITIES

This MSc has been specifically designed to meet the requirements of the biopharma industry. It is suitable for Science and Engineering graduates who wish to upskill or cross-skill for a career in biopharmaceuticals. Graduates from this programme can expect to find employment in the Biopharmaceutical, Biotechnology, Medical Diagnostics, Medical Devices and Pharmaceutical sectors. In the development of this programme emphasis has been placed on aligning the course content with the skills required primarily by the Biopharmaceutical industry, whilst ensuring that there is sufficient flexibility to allow students to move laterally into associated careers including Research and Development opportunities.

Graduates are typically employed in managerial positions in Scientific, Operations and Quality Assurance / Control positions in the Biopharmaceutical and Biotechnology industry sectors both within Ireland and abroad. Recent graduates are employed in companies such as Pfizer, MSD, Lilly, Amgen, Janssen and Takeda.



“ The course will give you a good understanding of a broad range of topics and areas in the biopharma space. I found the range of topics covered very useful, even though I was already working in the industry. ”

M. McLoughlin
BioMarin



WHY STUDY AT NIBRT AND IT SLIGO?

The award winning NIBRT facility has been purpose built to replicate a modern bioprocessing plant with state of the art biopharmaceutical manufacturing equipment. This includes extensive upstream, downstream, fill-finish and bioanalytical suites. These suites are operated in a realistic GMP manufacturing environment. During the placement time, students will get hands on experience of the operations involved in a biopharmaceutical production process. NIBRT's clients include the blue-chip biopharma manufacturing companies, international regulatory agencies and innovative vendors and suppliers. While carrying out placements, you will have ample opportunity to interact with these industry clients and NIBRT trainers.

NIBRT is located in the grounds of Ireland's largest university and provides full student support to all attendees. IT Sligo's success to date in online delivery has been recognised through a number of awards such as the Taoiseach's Award for Excellence in Online Teaching in 2012 and the Engineer's Ireland Award for the delivery of online laboratories in 2013. Access to online library facilities includes comprehensive research capabilities to ensure that the online student is fully supported throughout their course of study.

WHAT TO EXPECT AS AN ONLINE STUDENT



IT Sligo is the leader in Ireland in the use of technology in the delivery of distance education. The online programmes replicate the traditional face-to-face classroom by web-casting live classes over the Internet. During an online lecture you can hear the lecturer and see the board and/or class material that they are working. All live lectures are recorded for those who may not be able to attend the lectures live. Therefore, if you have missed the live lecture, you can download the recorded version and listen to it in your own time. In addition, each programme and module has its own web page where lecturers can post useful resources; students can submit assignments and get private feedback and where students can communicate with their lecturers and with each other.

We have enrolled students from many of the large multinational and SME companies in Ireland including the following: Intel, Coca-Cola, Boston Scientific, Abbott, Masonite, Eli Lilly, Jansen Biologics, Pfizer, Stiefel a GSK company and Merck, Sharp and Dohme (MSD). The Master's program is designed and delivered for students who want to study part-time at a pace that matches their work-life balance.

“ The MSc course will expand your opportunities in the workplace and place you in a position to take on more varied and interesting roles. ”

T. Ahern
Eli Lilly



Please contact us today to discuss this MSc further:

NIBRT: **info@nibrT.ie**

Admissions telephone: **+ 353 (071) 931 8511**

Further information: **www.nibrT.ie/masters**

