University College Dublin
Ireland's Global University

MEngSc Biopharmaceutical Engineering

(One Year Full Time / Two – Three Year Part Time)

Pharmaceutical and Biopharmaceutical manufacturing are key sectors in the Irish economy generating over 50 per cent of GDP. This sector has seen continued and sustained success with a number of high profile investments in recent years providing excellent job opportunities for graduates. The programme and its academic faculty are closely linked with the National Institute for Bioprocessing Research and Training (NIBRT), which is a global centre of excellence for training and research in bioprocessing.

The MEngSc in Biopharmaceutical Engineering programme provides substantial coverage of scientific, technical, management and regulatory issues associated with this industry. The aim of this programme is to offer an internationally recognised high quality flexible curriculum, which follows the latest developments in science and technology. This programme is suitable for Science and Engineering graduates wishing to obtain a qualification which is highly relevant to the biopharmaceutical industry.

Excellent employment record

This programme has an excellent employment record. It equips graduates with an internationally recognised qualification and the knowledge and skills to obtain a high level, professional career in the pharmaceutical sector.

Why study at UCD?

Tradition

Established 1854, with 160 years of teaching & research excellence

Global profile

UCD is ranked in the top 1% of higher education institutions worldwide

Global community

Over 7,000 international students from over 125 countries study at UCD

Global careers

Degrees with high employability; dedicated careers support; 1 year stay-back visa (for non-EU students)

Safety

Modern parkland campus with 24 hour security, minutes from Dublin city centre

Course Content and Structure

90 credits	60 credits	30 credits
taught masters	taught modules	project

The programme provides students with an understanding of the principle scientific and engineering challenges involved in the design, operation and management of biopharmaceutical production facilities.

Modules include:

- Animal Cell Culture Technology
- Bioprocess Design
- Bioreactor, Modelling and Control
- Bio-separations
- Bioprocessing Laboratory Practice
- Regulatory Affairs Science for Biotechnology Products
- Facility Design and Operation
- Biopharmaceutical Industry Regulation and Management
- Bioprocess Scale-up and Technology Transfer
- Lean Six Sigma
- Principles of Biopharmaceutical Engineering
- Molecular Genetics & Biotechnology
- Research / Design project

Course code: T070

Career Opportunities

Your career opportunities upon graduation from this programme are exemplary. Ireland is a world player in pharmaceutical and biopharmaceutical production.

The pharmaceutical industry in Ireland comprises a mix of international and local companies. Approximately, 120 overseas companies have plants in Ireland, including many of largest pharmaceutical and biopharmaceutical companies in the world including Pfizer, GSK, Merck, AbbVie, Novartis, Janssen Biologics (Ireland), Biomarin, Roche, Sanofi Genzyme, BMS, Amgen and many more.

Upon graduation from this programme, you will enjoy an extremely high job placement rate with superlative career opportunities.

Facilities and Resources

This programme is closely linked with the NIBRT facility. NIBRT offers a quality training and research experience not previously possible anywhere in the world. At the heart of the NIBRT building is the bioprocessing pilot plant, consisting of extensive upstream, downstream, fill-finish and the associated analytical facilities. These facilities are all operated in a realistic GMP simulated, operational manufacturing environment.

Apply Now

This programme receives significant interest so please apply early online at www.ucd.ie/apply

Entry Requirements

- A 4-year bachelors degree with a minimum upper second class honours (NFQ level 8) or international equivalence in a relevant Engineering, Science or Technology programme.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent.

International Students

- Stay in Ireland after graduating for 12 months to seek employment
- Approved by US Dept. of Education for federally supported loans
- Apply for Non-EU Scholarships: www.ucd.ie/international/scholarships

Related Masters Programmes of Interest

- MEngSc Chemical Engineering
- MSc Biotechnology

Fees

Fee information is available www.ucd.ie/fees

Graduate Profile

Kate McCarthy, Amgen

An Undergraduate Degree in Medicinal Chemistry meant I had a detailed knowledge of how drugs interact at a cellular level. I recognized that I wanted to know more about the Biopharmaceutical industry and this Masters course provided me with that knowledge; it bridged the gap between the science behind the drug and the manufacturing process.

The modules I studied such as lean six sigma, regulatory affairs, GMP, facility design & bio-separations were a brilliant platform providing me with the means to obtain a manufacturing role within industry. Not only was the theory taught exceptionally well but also the practical training carried out in the NIBRT facility within the UCD Campus allowed for a means of putting theory into practice and gave a great insight into the processes carried out within a typical Biopharmaceutical plant.

I would highly recommend this course to anyone looking to broaden their career opportunities as well as their understanding of the industry.

Contact Us

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