The MEngSc in Biopharmaceutical Engineering provides students with an understanding of the principal scientific and engineering challenges involved in the design, operation and management of biopharmaceutical production facilities. This programme is suitable for Science and Engineering graduates wishing to obtain a qualification which is highly relevant to the Biopharmaceutical Industry. This programme is offered in conjunction with the National Institute for Bioprocessing Research and Training (NIBRT) and the School of Pharmacy Trinity College Dublin (TCD). Completion of this programme leads to a qualification which is highly relevant to the Biopharmaceutical Industry.

Why study at University College Dublin?

Some of the reasons to study at UCD:

- Top 1% world university
- Ireland's leading provider of graduate education
- Ireland's largest and most international university
- Emphasis on research and innovation
- Safe, modern campus in Dublin, capital city of Ireland
- Extensive range of on-campus accommodation

UCD College of Engineering and Architecture

The UCD College of Engineering and Architecture's research and taught programmes are centred around a wide variety of activities spanning basic, strategic and applied research from the diverse range of disciplines covered by the Schools of Architecture, Biosystems Engineering, Chemical and Bioprocess Engineering; Civil, Structural and Environmental Engineering; Electrical, Electronic and Communications Engineering and Mechanical and Materials Engineering.

We have a proud history in research going back 100 years. Today, there are exciting opportunities for those wishing to pursue a higher research degree to doctoral or masters level. Within the broad disciplines listed above there are many research centres, clusters and institutes led by highly experienced and world-renowned researchers.

UCD School of Chemical & Bioprocess Engineering

The UCD School of Chemical and Bioprocess Engineering is the oldest and largest degree granting School of its type in Ireland, offering degrees up to the level of Ph.D. Since its beginning, over 1,000 engineers have been trained and the School has thus played a crucial role in the development of the Irish economy, where the chemical and allied industries are strongly represented.

The title of the school emphasises the strong research and teaching representation in both chemical and bioprocess engineering. The teaching received by undergraduates is strongly supported by the intensive research underway in the School, demonstrated by its position as the most research intensive School of its type in Ireland. In addition, the size of the School means that staff and postgraduate students can communicate freely on a day-to-day basis, fostering a culture of insight, encouragement, and openness.
What will I study?

The Programme’s teaching methods are highly interactive and varied. Students participate in lectures, workshops, tutorials and practical exercises. Case-studies of US and UK biotech firms, described by senior company executives, are used to illustrate the possibilities and limitations of commercial exploitation of scientific discoveries.

The programme consists of 12 modules with core modules in Biopharmaceutical Engineering, option engineering modules for Science graduates and option biology modules for Engineering graduates and a research project.

The current list of modules is:

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

What are the career opportunities?

Ireland is one of the leading locations for the pharmaceutical industry in Europe. For a country of just 4.5 million people, Ireland punches well above its weight and is undoubtedly a world player in pharmaceutical production.

The pharmaceutical industry in Ireland comprises a mix of international and local companies. Approximately, 120 overseas companies have plants in Ireland including 9 of the 10 largest pharmaceutical companies in the world including Pfizer, GSK, Merk, Abbott, Novartis, Sanofi, Bayer, Roche, AstraZeneca, Johnson & Johnson and many many more.

Ireland is now the largest net exporter of pharmaceuticals in the world and using the broader pharmachem measure, exports were worth 55.1 billion in 2011, accounting for over 50% of all exports from the country.

The Irish universities continue to produce graduates of the highest calibre to support the pharmaceutical industry. Graduates of the The MEngSc in Biopharmaceutical Engineering at University College Dublin enjoy a 100% placement rate with superlative career opportunities on their doorstep.

Entry Qualifications

Applicants must have:

- A first cycle honours Bachelor Degree in Chemical Technology or Chemical Engineering Science
- A complete application which includes a detailed explanation of your interest in the programme
- Names and contact details of two referees who can assess your intellectual ability, maturity and motivation
- Applicants may be required to attend an interview as part of the application process.

If English is not your native language, the minimum acceptable score on the TOEFL Internet Based Test is 90 and on IELTS it is 6.5.

Duration

This MEngSc is a one year full time, 12 month programme, comprising 90 credits. This programme is also available on a part-time basis for applicants working full-time in a related industry.

Contact us

General admission queries: Rebecca Patterson / Karina O’Neill eemarketing@ucd.ie
Tel: 353 1 716 1916/1781
www.ucd.ie/eacollege

Applying Online

To apply online, please go to www.ucd.ie/apply, create a user account, and then select ‘MEngSc Biopharmaceutical Engineering (T070)’.

Useful Links

www.ucd.ie/programmes/T070
www.ucd.ie/graduatestudies/coursefinder