

Master of Engineering Science in Biopharmaceutical Engineering



Background

The Master of Engineering Science (M.Eng.Sc.) in Biopharmaceutical Engineering is offered by the UCD School of Chemical and Bioprocess Engineering in conjunction with The National Institute for Bioprocessing Research and Training (NIBRT).

This is an advanced postgraduate degree programme offering a combination of lectures, tutorials, practicals and project work delivered by university and industry experts. The degree can be completed as a full-time programme over one year.

Aim

This programme is suitable for science and engineering graduates wishing to obtain a qualification which is highly relevant to the Biopharmaceutical Industry.

Entrance Requirements

An Honours degree or equivalent in an engineering or science discipline is required for entry.

Fees

The fee for the full-time one year programme is €6,900.

Application

To apply online, go to www.ucd.ie/apply. The code for this programme is T070. Applicants experiencing difficulties with the online application should directly contact the course director: Dr Susan McDonnell, UCD School of Chemical & Bioprocess Engineering.

Tel: +353 (0)1 716 1825

Email: biopharma@ucd.ie

Web: www.ucd.ie/chembioeng/biopharma

Content

The programme consists of 12 modules with core modules in Biopharmaceutical Engineering, engineering modules for Science graduates and biology modules for Engineering graduates and a research project. Overall, 90 'credits' must be achieved to complete the programme: each of the 12 modules account for 5 'credits' each, and the project accounts for 30 'credits'. Students are based in the UCD School of Chemical and Bioprocess Engineering.

The Programme's teaching methods are highly interactive and varied. Students participate in lectures, workshops, tutorials and practical exercises. The course content addresses the principal scientific and engineering challenges involved in the design, operation and management of biopharmaceutical production facilities. 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.

Programme Outcomes

MEngSc Biopharmaceutical Engineering graduates will advance their careers in a thorough understanding of best-practice in Ireland's rapidly-growing biopharmaceutical industry.

They will be ideally placed to lead and implement research and development projects and will benefit from training in the requisite skills for a professional scientist and engineer in this exciting industry.

Module Title
Principles of Biopharmaceutical Engineering
Transport Phenomena
Biochemist's Toolkit
Molecular Genetics & Biotechnology
Animal Cell Culture Technology
Microbial Cell Factory
Bioreactor, Modelling and Control
Bioseparations
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