Master of Science (MSc)
Pharmaceutical Manufacturing & Process Technology

- Develop your knowledge of Biotech and Pharmaceutical Process Technology Sector
- Gain expertise in Quality Systems, Technology Transfer, Pharmaceutical Management and Process Improvement
- Do you hold a Level 8 primary Degree with a 2.2 award or higher in a Science or Engineering related discipline?

Potential Job Opportunities
- R&D and Product Management
- Technology Transfer
- Quality Control
- Quality/Regulatory Affairs
- Process Improvement
- Production/ Supervisory Management
- Business Development

- A unique focus on Biotech and Pharmaceutical Process Technology
- Online and lab based learning
- Extensive practical lab experience
- 3 semesters over 12 months
- 2 evenings per week plus two weekdays per month
- Experienced Industry sourced lecturers

www.innopharmalabs.com/education
A Demand for New Skills

To meet the manufacturing challenges of the 21st century this MSc in Pharmaceutical Manufacturing & Process Technology is now offered as a blended online delivery with extensive practical hands-on sessions to enhance your learning experience. The course focuses on biotech and pharmaceutical process technologies, technology transfer, lean manufacturing, six sigma, regulatory compliance, project management and process control. Students will gain hands-on experience in the ITT Dublin, Pharmaceutical Development Centre, completing practicals in NIR, Raman, SEM, and Powder Rheometry. Students will also focus on the latest Process Analytical Technology (PAT) and formulation development techniques. The programme consists of six taught modules plus a research based thesis. The programme is delivered using a combination of online seminars, tutorials and practicals. Students have a choice of either undertaking a research or work based thesis.

Who is this Programme for?

The programme is targeted at those who wish to develop their career in the areas of biotech and pharmaceutical technologies, quality control, compliance, business improvement, technology transfer, validation and data analysis. Graduates of this programme will be ideally positioned to work in organisations specialising in API, biopharmaceutical and finished dose manufacturing.

Entry Requirements

Entry requirements are a Level 8 primary Degree with a 2.2 award or higher in a science related subject. Bridging modules will be delivered at the commencement of the programme to ensure candidate suitability. Recognition of prior learning (RPL) will also be taken into account to support entry to this programme.

Duration and Hours

This 12 month programme is delivered over three semesters (90 Credits). Students will attend classes online two evenings per week (6.30pm - 9.30pm) and two weekdays per month for lab practicals and group work. Lab sessions will take place in ITT Dublin.

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MSc Programme Module Content

Semester 1 (30 Credits)

Module 1: Bio and Pharmaceutical Technology

Module 2 Advanced Pharmaceutical Statistics
- DoE and Regression, Measurement System Validation, Response Surface Methodology, Clinical Trials, Principal Components Analysis

Module 3 Advanced Finished Dose Project Labs
- Physical Characterisation Measurements, Blend Uniformity, Tablet Compaction, Dwell time, Compression force, Hardness, Disintegration, Dissolution

Semester 2 (30 Credits)

Module 4 Pharmaceutical Management & Quality Systems
- Lean Manufacturing, Pharmaceutical Management, Applications of Risk Management, Six Sigma, CAPA, Regulatory Inspections, IMB/FDA GMP/GDP facility inspections, Risk Management, Project Management

Module 5 Technology Transfer for Bio and Pharmaceutical Processes

Module 6: Advanced API and Bio Process Technology Labs
- API Synthesis, Purification, Analysis, Physical Characterisation, Tangential Flow Filtration, Ion Exchange, ELISA Analysis

Semester 3 (30 Credits)

Module 7: Thesis
- Lab Based Research or Literature/Work Based Thesis
MSc Programme Learning Outcomes

On successful completion of the programme learners will be able to:

- **Demonstrate** detailed knowledge of the theoretical foundations for analytical techniques used in material characterisation, formulation design and PAT applications
- **Apply** advanced statistical techniques to conduct measurement system validation studies and analyse data from clinical trials
- **Perform** advanced physical characterisation experiments and formulation development
- **Assess** organisational structures for management and quality systems and design implementation strategies
- **Interpret** best practice professional and regulatory guides for technology transfer activities and apply best practice guides to case studies for API, biotech and finished dose processes
- **Synthesise**, purify and characterise an API

Award

Master of Science (MSc) in Pharmaceutical Manufacturing & Process Technology

Enrolment & Fees

All students will be interviewed to assess course suitability.

Contact the Innopharma Labs offices to obtain the current pricing and payment options.

Innopharma Labs is the award-winning, premier education research and technology institution for industry-led education and training programmes in the Pharmaceutical, MedTech and Food industries. Innopharma Labs has grown to become one of the top institutions in Ireland delivering world recognised qualifications up to Masters’ degree level. All our education programmes are developed with your career advancement in mind – consisting of a unique blend of industry focused modules and practical workshops. Many of our lecturers have extensive experience in industry and engage in a high level of coaching and mentoring with students. Innopharma Labs programmes, are the number one choice for graduates and experienced professionals seeking to upskill and advance their careers in the Pharmaceutical, MedTech and Food sectors.

For further information talk to our education team at Innopharma Labs

Tel: +353 1 4853346 or e-mail education@innopharmalabs.com

www.innopharmalabs.com