



QUEEN'S
UNIVERSITY
BELFAST

MSc PHARMACEUTICAL ANALYSIS

CAREER READY SKILLS

Developed in consultation with the pharmaceutical industry and a leading instrument manufacturer, who participate in the delivery of the course.

TAUGHT BY EXPERTS

Delivered jointly by academics from the School of Chemistry and Chemical Engineering and the School of Pharmacy.

APPLY YOUR KNOWLEDGE

Receive hands on training and complete a summer research project.

in partnership with



Agilent Technologies

MSc PHARMACEUTICAL ANALYSIS



Course Content

The whole course is hands-on. You don't just get talked at, you'll be trained on techniques such as:

- Liquid and gas chromatography (HPLC, GC)
- Mass spectrometry (MS)
- Thermal Analysis (DSC, TGA)
- X-ray crystallography (PXRD, XRD)
- Nuclear Magnetic Resonance (NMR) spectroscopy
- You will also receive training on QA/QC aspects of the Pharmaceutical Industry

You'll use equipment such as:

- State of the art X-Ray and NMR facilities
- HPLC and GC instrumentation
- Thermal analysis equipment
- Electron microscopes

For your research project, you'll spend three months in a laboratory. You have the option to do this in industry, for example in Almac.

Our industrial partners have fed into and influenced the course structure, to tell us what they need from the latest analytical graduates.

We have guest lecturers from industry to tell you about the issues they face, out in the field.

We have also partnered with Agilent, the industry leader in chemical analysis, to equip our labs and deliver hands-on training, troubleshooting workshops and insights on trends in analytical instrumentation.

The Environment

Our class is getting much more international. Although many of your predecessors on this course remain in Northern Ireland, previous international graduates have returned home with the knowledge they've gained here, in the expectation of getting a much better job.

Everything is on-campus, and the course is very hands-on and interactive.



Course Director

Dr Panagiotis Manesiotis
Email: p.manesiotis@qub.ac.uk

Who will be teaching you?

Dr Panagiotis Manesiotis is the Course Director.

His research covers the manufacture of plastic antibodies – more robust and less expensive than natural antibodies - for bioanalysis, and environmental clean-up: engaging with the food industry and environmental protection agencies to recover valuable resources from waste and recycle them into useful materials.

Who are you?

You are probably a recent science graduate who wants to take the next step in one of the biggest pharma hubs – Northern Ireland.

Your background could be in the physical or life sciences – chemistry, pharmacy and biology.

But you could already be in work. If you are, we offer this course part-time as well, one day per week.

What you'll get up to

You'll learn the theory behind state-of-the-art analytical techniques and have an opportunity to practice your skills using the most modern instrumentation.

CAREER OUTCOME

Advanced Separation Science

HPLC, GC
Hyphenated techniques (LC-MS, GC-MS)
Method development and validation
Qualitative and quantitative analysis
Pharmacopoeia monographs

Solid State Pharmaceutical Analysis

Qualitative/quantitative analysis of solid states
Thermal analytical techniques
Electron microscopy
X-Ray crystallography
FT-IR/Raman spectroscopy

SKILLS

Chemical, Biochemical and Spectroscopic Techniques

UV/Fluorescence
Nuclear Magnetic Resonance (NMR)
Mass spectrometry

Quality Assurance/Control

Principles and processes in Healthcare Industries
Role of the QA/QC team
Product manufacture and registration

Where could you be in five years?

Employability is a major perk of the course. Ireland, North and South, is a major hub for the pharmaceutical industry.

In five years you might be working as a laboratory analyst or senior analyst, in quality assurance or quality control or in an industrial R&D facility.

You could be managing graduate recruits of your own, signing off the analysis and the quality of drugs and releasing batches into the world.

You could study further towards obtaining a PhD and continue towards an academic career.

The main focus of this degree is pharmaceutical analysis, but your training could open up career pathways in other areas, such as the food industry or environmental protection.

Many of our previous students have gone on to work for companies such as:

- Almac
- Randox
- Norbrook
- Actavis (formerly Warner-Chilcott)

To discuss the course in more detail or if you have any questions contact:



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FIND OUT MORE ABOUT THE COURSE:

<http://go.qub.ac.uk/pharmanalysis>

CONTACT US

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FACULTY OF
ENGINEERING
AND PHYSICAL
SCIENCES

**SHAPING A
BETTER WORLD
SINCE 1845**