

MSC (ANALYTICAL CHEMISTRY)

Overview

NFQ Level 9, Major Award

The MSc may be taken full-time over 12 months or part-time over 24 months from the date of first registration for the programme. It consists of:

1. lectures
2. laboratory work on set experiments and
3. a dissertation based on individual research and development in the selected field of modern analytical science, under the supervision of an expert staff member.

Candidates may need to secure appropriate day release from industry. Part of the lecture course will also be available through online blended e-learning.

The MSc Degree is awarded to successful candidates after passing written examinations across all taught modules, including the continuously assessed practical module CM6015, and the research project (CM6020) which has to be written up in the form of a dissertation and approved by the external examiner.

Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

Programme Requirements

| Code | Title | Credits |
|------|-------|---------|
|------|-------|---------|

Students take **90** credits as follows:

Part I

Students take **60** credits as follows – all listed core modules (**50** credits) and **10** credits of elective modules:

Core Modules

| | | |
|--------|---|----|
| CM6012 | Modern Analytical Techniques, Chemical Data Analysis and GLP | 10 |
| CM6013 | Separation Science, Sensors and Process Analytical Technology | 10 |
| CM6014 | Materials, Pharmaceutical and Bio-analysis | 10 |
| CM6015 | Practice of Analytical Chemistry | 10 |
| CM6026 | Industry Led Workshop | 5 |
| CM6027 | Taught Postgraduate Transferable Skills Development | 5 |

Elective Modules

Students take modules to the value of **10** credits from the following: 10

| | | |
|--------|---|--|
| EV4002 | Environmental Monitoring and Assessment (10) | |
| PF6301 | Biopharmaceuticals: Formulation, Secondary Processing and Regulation (10) | |

Part II

Research Project

Students take **30** credits as follows:

Core Modules

| | | |
|----------------------|---|-----------|
| CM6020 | Research Project and Dissertation in Analytical Chemistry | 30 |
| Total Credits | | 90 |

Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.

Programme Learning Outcomes

Programme Learning Outcomes for MSc (Analytical Chemistry) (NFQ Level 9, Major Award)

On successful completion of this programme, students should be able to:

- Identify, formulate, analyse and solve analytical chemistry problems;
- Outline fundamental and applied aspects of analytical chemistry;
- Design and carry out a method of chemical analysis, including instrumental analysis;
- Prepare written laboratory reports that provide a description of the experiment, explain the experiment and reasoning clearly, and provide an appropriate conclusion;
- Communicate effectively with the chemistry and analytical science communities;
- Carry out research and method development in analytical science;
- Prepare a written research report in the form of a dissertation.