

**PROGRAMME SPECIFICATION
(Taught Postgraduate)**



1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	MSc
4	Programme Title	Chemistry
5	Programme Code	5371F
6	Programme Accreditation	N/A
7	QAA Subject Benchmark(s)	Chemistry
8	FHEQ Level	Level 7
9	Last updated	June 2024

10 Programme Aims

- 1 To provide advanced training in modern chemistry.
- 2 To provide an overview of advanced chemistry topics as practiced in modern research.
- 3 To provide speciality training in areas of organic, inorganic, physical and analytical chemistry.
- 4 To enable the student to achieve a high level of research competence and to gain experience through training in relevant aspects of laboratory work, including COSHH and safety.
- 5 To provide the student with enhanced skills in scientific writing and giving presentations.

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, data interpretation and practical skills related to modern approaches to chemistry.

Knowledge and Understanding

On completing the programme students should:

- A1 Have advanced knowledge across the main branches of chemistry (organic, inorganic, physical and analytical).
- A2 Have developed advanced practical laboratory skills.
- A3 Have developed skills in data analysis and numeracy.
- A4 Have skills in modern spectroscopy and chemical characterisation.
- A5 Have skills in advanced research methods.
- A6 Have knowledge of a range of research methods and have developed skills in scientific writing and presentation.

Teaching and Learning Methods

Students acquire understanding and knowledge through lectures, seminars and workshops (**A1, A5**). In the laboratory classes they consolidate the learning started in lectures by performing carefully designed and tested experiments (**A1 - A4**) and apply data analysis. Modules cover some specialised areas of chemistry (**A5**), and the Research Project allows application and extension of taught material to the research environment (**A1–A6**). Throughout the period of the programme the student is expected to read around the taught material to supplement and strengthen the taught/learned work. Reading lists are provided to facilitate this and the course is supplemented with research seminars by leading external academic and industrial speakers (**A1, A5, A6**)

Assessment Strategy

<p>Knowledge and understanding is assessed through unseen written examinations and in-course assessment (A1–A5), practical reports (A2–A4), the research dissertation and oral presentations as part of the Research Project (A1–A6).</p>
<p>Intellectual Skills</p>
<p>On completing the programme students should be able to:</p> <p>B1 Critically evaluate data B2 Apply learnt knowledge to unseen problems B3 Analyse and interpret data B4 Independently plan and undertake a research project.</p>
<p>Teaching and Learning Methods</p>
<p>Intellectual skills are developed by means of the teaching and learning programme described above. Students apply the concepts learnt to problems in laboratory work, seminars and coursework assignments (B1–B3). Students develop skills (B1–B4) in the design and conduct of the Research Project.</p>
<p>Assessment Strategy</p>
<p>Problem solving components of taught modules present in examinations and course work assess skills (B1–B3). The Research Project assesses skills (B1–B4) through written reports, oral presentations and the research dissertation.</p>
<p>Practical Skills</p>
<p>On completing the programme students should be able to:</p> <p>C1 Work safely and independently in a chemistry laboratory. C2 Plan an advanced practical project. C3 Undertake a research project.</p>
<p>Teaching and Learning Methods</p>
<p>Students receive close supervision from a demonstrator, or member of staff, in the laboratory when performing experiments to enable them to develop safe working practices and good techniques. Formative feedback is used to enable progressive development of these skills (C1). Due to the diverse backgrounds of students on the programme initial experiments in NES8814 covers methods and techniques in chemistry with detailed procedures. The research project then allows students to plan and design their experiments, work with a greater level of independence and perform more technically demanding procedures (C2, C3).</p>
<p>Assessment Strategy</p>
<p>C1 and C2 are assessed through risk assessments and the project plan. In addition to progress reports and oral presentations the dissertation is used to assess the planning and outcome of the Research Project (C3).</p>
<p>Transferable/Key Skills</p>
<p>On completing the programme students should be able to:</p> <p>D1 Communicate and express clearly ideas both orally and in writing D2 Work in a group environment D3 Manage time and complete work to deadlines D4 Assess and form an opinion of other people's work D5 Find information from a range of sources D6 Be self-reliant D7 Critically evaluate data</p>
<p>Teaching and Learning Methods</p>
<p>Both lecture courses (through assignments) and practical courses require the students to produce regular written work which is submitted to deadlines (D1, D3, D5, D6). Assignments may also require critical evaluation and interpretation of data (D7). The laboratory component of NES8814 and the Research Project provide the opportunity for students to plan work and solve problems (D2). Peer assessment is introduced in a</p>

formative sense in NES8814 and through the planning of the Research Project (D4). All skills (D1–D7) are further developed through the Research Project.

Assessment Strategy

Written work and oral presentations are used to assess skill D1. Assignments as part of the taught modules assess D1, D3, D5–D7. The Research Project evaluates skills D1–D7. In addition, skill D2 is practiced in NES8814.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The programme runs for 12-months from late September, across 3 Semesters. It comprises 180 credits, including 100 credits taught (Semesters 1 and 2) with 80 credits allocated to the practical component of the project (mostly undertaken during Semester 3). 170 credits of modules are compulsory for non-Newcastle University Chemistry graduates with taught modules either 10 or 20-credit weighting. The programme is offered in full time mode (1 year) and successful completion of the programme leads to the award of the MSc degree.

Key features of the programme (including what makes the programme distinctive)

The taught programme highlights the impact of chemistry in the modern world. The programme allows the student to focus on advanced elements of organic, inorganic, physical and analytical chemistry. The research project and dissertation will provide training in how to tackle and how to communicate the results of a significant research problem in chemistry.

Programme regulations (link to on-line version)

5371F: <https://teaching.ncl.ac.uk/docs/regdocs2024/documents/-R5371F.pdf>

13 Support for Student Learning

Generic information regarding University provision is available at the following link.
[Generic Information](#)

14 Methods for evaluating and improving the quality and standards of teaching and learning

Generic information regarding University provision is available at the following link.
[Generic Information](#)

Accreditation reports

N/A

Additional mechanisms

N/A

15 Regulation of assessment

Generic information regarding University provision is available at the following link.
[Generic Information](#)

In addition, information relating to the programme is provided in:

The University Prospectus: <https://www.ncl.ac.uk/postgraduate/>

The University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.

