

## PROGRAMME SPECIFICATION



1	<b>Awarding Institution</b>	Newcastle University
2	<b>Teaching Institution</b>	Newcastle University
3	<b>Final Award</b>	BSc (Hons)
4	<b>Programme Title</b>	Chemistry Component
5	<b>UCAS/Programme Code</b>	CF11 – Biology and Chemistry
6	<b>Programme Accreditation</b>	N/A
7	<b>QAA Subject Benchmark(s)</b>	Chemistry
8	<b>FHEQ Level</b>	Honours
9	<b>Date written/revised</b>	September 2007

### 10 Programme Aims

The aims of this programme are a subset of those for the Single Honours Degree in Chemistry.

- 1 The degree programme aims to educate students with an understanding of the essential principles and applications of organic, inorganic and physical chemistry and to equip students with skills that enable them to pursue careers in science-related disciplines and commerce.
- 2 To educate the student in the use of simple and more advanced chemical laboratory techniques and the application of these techniques to problems in contemporary science.
- 3 To provide a programme which meets the FHEQ at Honours level and which takes appropriate account of the subject benchmark statements in Chemistry.

### 11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for Chemistry.

#### Knowledge and Understanding

On completing the programme students should:

- A1 The three main branches of chemistry (inorganic, physical & organic);
- A2 Practical laboratory chemistry;
- A3 Data analysis and numeracy;
- A4 Spectroscopy and chemical characterisation.

#### Teaching and Learning Methods

The acquisition of understanding and knowledge is by way of a combination of lectures, tutorials and workshops. Hand-on experience of chemistry is through practical classes consisting of carefully designed and tested experiments. Practical classes in Years 1 and 2 will introduce and allow the student to practice a variety of basic and sophisticated practical techniques. The experiments complement the material being taught in the lectures.

#### Assessment Strategy

The testing of knowledge is through a combination of unseen written examinations (A1, A3, A4) and oral examinations (A2).

<b>Intellectual Skills</b>
On completing the programme students should be able to: B1 Critically evaluate data; B2 Apply learnt knowledge to unseen problems; B3 Analyse and interpret data.
<b>Teaching and Learning Methods</b>
Intellectual skills are developed by means of the teaching and learning programme outlined above. All courses are designed to promote discussion of key topics and facilitate self-assessment. Courses encourage application of concepts within a laboratory framework. Tutorials and seminars back-up lecture material and facilitate small group participation in answering problems.
<b>Assessment Strategy</b>
Problem solving based examinations and oral responses to either problems or tasks (tutorials) are used to test skills B1 to B3. Write up of independent projects also allows students to demonstrate cognitive skills.
<b>Practical Skills</b>
On completing the programme students should be able to: C1 Work safely in a chemistry laboratory; C2 Plan and undertake a practical or literature or non-laboratory based IT project.
<b>Teaching and Learning Methods</b>
For skill C1 all students receive close supervision from a demonstrator or member of staff in the laboratory when performing experiments. A series of experiments are presented in the laboratory manual which outline safety issues, laboratory codes of practice and gives a detailed plan of operation. Students present results from their experiments in the form of a report. For skill C2 most students complete a practical project in an area of chemistry. They contribute to the planning and direction of the experimental work. They improve on their experimental technique and experience.
<b>Assessment Strategy</b>
The skills C1 are assessed by means of laboratory write-ups and oral examinations.
<b>Transferable/Key Skills</b>
On completing the programme students should be able to: 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 peoples work D5 Find information from a range of sources D6 Be self-reliant D7 Critically evaluate data and use when required.
<b>Teaching and Learning Methods</b>
All laboratory courses require regular written work and the use of search libraries, the Internet and extensive bookwork. After marking practical write-ups and tutorial work the work is discussed with the students to develop their understanding as well as their powers of expression. Skills (D2 and D3) are learnt from working in group environments (groups vary in size from 2 to 6 depending on the courses), and handing in reports to set deadlines. Skills D4 and D5 are obtained from detailed literature searches. Skills D2 and D4 stem from small group tutorials and oral presentations to a peer audience. Solving of unseen problems helps develop skill D7.

**Assessment Strategy**

Oral examinations are used to assess a student's ability, both at one-to-one level and in a peer-reviewed atmosphere. Many of the outlined skills are assessed in written examinations by both the answers and the approach to question answering. Laboratory work in a research environment critically evaluates skills D2-D7.

**12 Programme Curriculum, Structure and Features****Basic structure of the programme**

The degree programme is offered full-time (3 years). All students must take the compulsory courses outlined in each year. A number of option courses are open for study and are chosen by the student with consultation with their personal tutor.

**1. Stage 1**

Students take the following compulsory modules

<i>Code</i>	<i>Credits</i>	<i>Descriptive title</i>
CHY1101	(10+10)	Basic Organic Chemistry
CHY1201	(0+20)	Elements of Physical Chemistry
CHY1301	(10+10)	Structural and Inorganic Chemistry

**2. Stage 2**

(a) Students take the following compulsory modules:

<i>Code</i>	<i>Credits</i>	<i>Descriptive title</i>
CHY2101	(10+10)	Organic Chemistry
CHY2201	(0+20)	Physical Chemistry
CHY2301	(10+10)	Inorganic Chemistry

**3. Stage 3**

Students choose 60 credits of compulsory modules from the list below which must include either CHY3001 or CHY3002

<i>Code</i>	<i>Credits</i>	<i>Descriptive title</i>
CHY3101	(20+0)	Advanced Organic Chemistry
CHY3201	(20+0)	Advanced Physical Chemistry
CHY3301	(0+20)	Advanced Inorganic Chemistry
CHY3001	(15+25)	Advanced Practical Course
CHY3002	(15+25)	Communicating Chemistry Project

**Key features of the programme (including what makes the programme distinctive)****Programme regulations (link to on-line version)**

<http://www.ncl.ac.uk/regulations/programme/2007-2008/programme/cf11.php>

**13 Criteria for admission**

See the overarching document for Joint Honours degrees.

## **14 Support for Student Learning**

### *Induction*

The first week of the first term/semester is an Induction Week with no formal teaching. During this period all students attend an induction programme in which they will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. In particular all new students will be given general information about the School and their programme, as described in the Degree Programme Handbook. The International Office offers an additional induction programme for overseas students (see [http://www.ncl.ac.uk/international/coming\\_to\\_newcastle/orientation.phtml](http://www.ncl.ac.uk/international/coming_to_newcastle/orientation.phtml))

### *Study skills support*

Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

### *Academic support*

The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Board of Studies.

### *Pastoral support*

All students are assigned a personal tutor whose responsibility is to monitor the academic performance and overall well-being of their tutees. Details of the personal tutor system can be found at <http://www.ncl.ac.uk/undergraduate/support/tutor.phtml>  
In addition the University offers a range of support services, including the Student Advice Centre, the Student Counselling Service, the Mature Student Support Service, and a Childcare Support Officer, see <http://www.ncl.ac.uk/undergraduate/support/welfare.phtml>

### *Support for students with disabilities*

The University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies. For further details see <http://www.ncl.ac.uk/disability-support/>

### *Learning resources*

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities, see <http://www.ncl.ac.uk/undergraduate/support/acfacilities.phtml>

All new students whose first language is not English are required to take an English Language test in the Language Centre. Where appropriate, in-session language training can be provided. The Language Centre houses a range of resources for learning other languages which may be particularly appropriate for those interested in an Erasmus exchange. See <http://www.ncl.ac.uk/undergraduate/support/facilities/langcen.phtml>

## **15 Methods for evaluating and improving the quality and standards of teaching and learning**

### *Module reviews*

All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School

Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

#### *Programme reviews*

The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Teaching and Learning Committee.

#### *External Examiner reports*

External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with institutional student representatives, through the Staff-Student Committee.

#### *Student evaluations*

All modules, and the degree programme, are subject to review by student questionnaires. Informal student evaluation is also obtained at the Staff-Student Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking the students' views on the quality of the learning and teaching in their HEIs. Further information is at [www.thestudentsurvey.com/](http://www.thestudentsurvey.com/) With reference to the outcomes of the NSS and institutional student satisfaction surveys actions are taken at all appropriate levels by the institution.

#### *Mechanisms for gaining student feedback*

Feedback is channelled via the Staff-Student Committee and the Board of Studies.

#### *Faculty and University Review Mechanisms*

The programme is subject to the University's Internal Subject Review process, see [http://www.ncl.ac.uk/aqss/qsh/internal\\_subject\\_review/index.php](http://www.ncl.ac.uk/aqss/qsh/internal_subject_review/index.php)

#### *Accreditation reports*

#### *Additional mechanisms*

## **16 Regulation of assessment**

#### *Pass mark*

The pass mark is 40 (Undergraduate programmes)

#### *Course requirements*

Progression is subject to the University's Undergraduate Progress Regulations (<http://www.ncl.ac.uk/calendar/university.regs/ugcont.pdf>) and Undergraduate Examination Conventions (<http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.pdf>). In summary, students must pass, or be deemed to have passed, 120 credits at each Stage. Limited compensation up to 40 credits and down to a mark of 35 is possible at each Stage and there are resit opportunities, with certain restrictions.

Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research (<http://www.ncl.ac.uk/calendar/university.regs/tpmdepr.pdf>) and Examination Conventions for Taught Masters Degrees (<http://www.ncl.ac.uk/calendar/university.regs/tpmdeprexamconv.pdf>). Limited compensation up to 40 credits of the taught element and down to a mark of 40 is possible and there are reassessment opportunities, with certain restrictions.

#### *Weighting of stages*

The marks from Stages 2 and 3 will contribute to the final classification of the degree

The weighting of marks contributing to the degree for Stages 2 and 3 is 1:1

*Common Marking Scheme*

The University employs a common marking scheme, which is specified in the Undergraduate Examination Conventions, namely

	<b>Honours</b>	<b>Non-honours</b>
<40	Fail	Failing
40-49	Third Class	Basic
50-59	Second Class, Second Division	Good
60-69	Second Class, First Division	Very Good
70+	First Class	Excellent

*Role of the External Examiner*

An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, after recommendation from the Board of Studies.

The External Examiner is expected to:

- See and approve examination papers
- Moderate examination and coursework marking
- Attend the Board of Examiners
- Report to the University on the standards of the programme

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

The University Prospectus (see <http://www.ncl.ac.uk/undergraduate/>)

The School Brochure (contact [enquiries@ncl.ac.uk](mailto:enquiries@ncl.ac.uk))

The University Regulations (see <http://www.ncl.ac.uk/calendar/university.regs/>)

The Degree Programme Handbook

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. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

## Mapping of Intended Learning Outcomes onto Curriculum/Modules

Intended Learning Outcome	Module codes (Comp/Core in Bold)
A1: Inorganic, Organic, Physical Chemistry	<b>CHY1101, CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3002, CHY3101, CHY3201, CHY3301</i>
A2: Practical laboratory chemistry	<b>CHY1101, CHY1102, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001</i>
A3: Data analysis and numeracy	<b>CHY1101, CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3101, CHY3201, CHY3301</i>
A4: Spectroscopy and chemical characterisation	<b>CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3201, CHY3301</i>
B1. Critically evaluate data	<i>CHY3001, CHY3002, CHY3201</i>
B2. Apply learnt knowledge to unseen problems	<b>CHY1101, CHY1102, CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3101, CHY3201, CHY3301</i>
B3. Analyse and interpret data	<b>CHY1102, CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3002, CHY3101, CHY3201, CHY3301,</i>
C1: Work safely and independently in a laboratory	<b>CHY1101, CHY1102, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001</i>
C2: Plan and undertake an advanced practical course or non-lab project	<i>CHY3001, CHY3002</i>
D1. Communicate and express ideas orally and in writing	<b>CHY1101, CHY1102, CHY1202, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3002, CHY3101, CHY3201, CHY3301</i>
D2. Work in a group environment	<i>CHY3002</i>
D3. Manage time and complete work to deadlines	<b>CHY1101, CHY1301, CHY2101, CHY2201, CHY2301,</b> <i>CHY3001, CHY3002, CHY3101, CHY3201, CHY3301</i>
D4. Assess and form an opinion of other people's work	<b>CHY2101,</b> <i>CHY3001, CHY3002</i>
D5. Find information from a range of sources	<i>CHY3101, CHY3201, CHY3301</i>
D6. Be self-reliant	<i>CHY3001, CHY3002</i>
D7. Critically evaluate data and use when required	<i>CHY3001, CHY3002</i>