

PROGRAMME SPECIFICATION

1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	n/a
4	Programme Title	Foundation Year (SAGÉ)
5	UCAS/Programme Code	G101
6	Programme Accreditation	n/a
7	QAA Subject Benchmark(s)	n/a
8	FHEQ Level	3
9	Last updated	Jan 2014

10 Programme Aims

To equip students with the knowledge and ability to enter the Maths degree programme.

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.

Knowledge and Understanding

On completing the programme students should:

A1 be able to demonstrate knowledge of maths methods and have knowledge & understanding of maths topics such as differential and integral calculus, including techniques of differentiation and of systematic integration; know the derivatives of some standard mathematical functions; understand why complex numbers were created.

A2 be able to demonstrate knowledge and understanding of materials, such as metals, ceramics and polymers on the atomic, micro-and macro-scales, and be able to demonstrate knowledge & understanding of the wide range of properties exhibited by materials and how to tailor these to advantage. They should be able to demonstrate knowledge & understanding of the mechanical properties of materials and how these are influenced by atomic bonding and microstructure (SFY0010).

A3 be able to understand key accounting concepts, different approaches to costing, and their implications, budgeting in organisations; key elements of financial management (ACC1000)

A4 have knowledge of Kinematics and dynamics, displacement and rates of change, simple harmonic motion, Newton's laws, work and energy, kinetic and potential energy, power and efficiency, conservation of energy and momentum, friction. (SFY0011)

A5 demonstrate knowledge of engineering units and the laws relating to quasi-static field phenomena; passive electrical components; simple DC, AC and digital circuit analysis and design. They will also have a qualitative grasp of transistor theory and understand the role of log-books (SFY0012)

A6 be able to understand the principles of data collection. They will also have a basic knowledge of data interpretation, data analysis and statistical inference.

A7 demonstrate knowledge of chemistry (SFY0005): manipulate formulae, equations and amounts; elements and the Periodic Table; atomic structure; the nature of acids and bases; energy changes involved in reactions; properties of gases; bonding and structure in organic and inorganic substances; functional groups in organic chemistry; trends in the reactivity of elements and their compounds.

A8 be able to describe the main components of computer systems, the functionality of a key set of applications, build web pages and discuss principles of computer programming (CSC6001).

A9 demonstrate knowledge and understanding of the elementary physics associated with: Forces, energy, the structure of the atom and the interaction of light with atoms, the structure of the nucleus and its stability, radioactivity and radioactive decay (SFY0014)

Teaching and Learning Methods

Lectures, seminars & tutorials. The primary means of imparting knowledge and understanding is lectures. These are supplemented by seminars which enable students to check their learning. Throughout the course students are encouraged to supplement taught material by independent reading, for which they are given extensive support and guidance on reading materials and how to use them.

Assessment Strategy

Written examinations & coursework

Intellectual Skills

On completing the programme students should be able to:-

B1 follow international standards for use of engineering units.

B2 solve engineering problems involving algebraic manipulation, graphical techniques and arithmetical skills.

B3 select and process data to provide appropriate information for technical problems.

B4 differentiate mathematical functions from first principles, and to apply the usual rules for differentiation.

B5 Solve problems in chemistry, including equations (SFY0005 & 6)

B6 be able to present data in numerical, graphical and tabular form.

B7 prepare and interpret financial and management accounting reports

Teaching and Learning Methods

Lectures, seminars & tutorials. Intellectual skills are developed through seminars, and the project modules. Students are encouraged to acquire them through solving problems arising from these.

Assessment Strategy

Written Exams & coursework.

Practical Skills
<p>On completing the programme students should be able to:</p> <p>C1 predict, with reasons, why a particular material is suitable for a specific application. C2 integrate taught theory and analytical methods with 'capability' skills in problem solving and practical work. C3 carry out basic calculations in materials science, selecting and applying the relevant mathematical procedures. C4 use the oscilloscope and both analogue and digital meters</p>
Teaching and Learning Methods
<p>Lab sessions, tutorials. Practical skills are developed by laboratories and fieldwork. Students are encouraged to learn by doing, i.e. undertaking experiments for themselves as part of their modules.</p>
Assessment Strategy
Transferable/Key Skills
<p>On completing the programme students should be able to:</p> <p>D1 use problem worksheets and lecture notes to study an engineering subject to degree level. D2 carry out basic calculations in selecting and applying the relevant mathematical procedures. D3 produce effective presentations: present data in numerical, graphical and tabular form. D4 undertake project work and report writing. D5 produce coursework D6 manage their time D7 participate in group work D8 use Microsoft office D9 select and process data to provide appropriate information for technical problems. D10 be able to proficiently use a range of mathematical and physical concepts required in Stage 1 engineering modules, and be able to apply such skills to a range of problems arising in engineering systems.</p>
Teaching and Learning Methods
<p>Lectures, seminars and tutorials, hand-outs and lecture notes. Expertise in problem-solving is modelled in lectures and supported seminars. Communication and presentation skills are also developed in seminars. Student learning is supported by regular problem solving exercises, and formative coursework.</p>
Assessment Strategy
<p>Formative coursework, in-class tests and written examinations.</p>
12 Programme Curriculum, Structure and Features
Basic structure of the programme
<p>70 compulsory credits and 50 optional credits to be taken.</p>

Key features of the programme (including what makes the programme distinctive)
It is Foundation Level, and has wide-ranging subject content in order to equip students to study in one of several streams.
Programme regulations (link to on-line version)
http://www.ncl.ac.uk/regulations/programme/

13 Criteria for admission
<p><i>Entry qualifications</i> Appropriate science and maths qualifications</p> <p><i>Admissions policy/selection tools</i></p> <p><i>Non-standard Entry Requirements</i></p> <p><i>Additional Requirements</i></p> <p><i>Level of English Language capability</i> IELTS 6.5 (or equivalent)</p>

14 Support for Student Learning
<p>The Student Services portal provides links to key services and other information and is available at: http://www.ncl.ac.uk/students/</p> <p><i>Induction</i> During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students.</p> <p><i>Study skills support</i> 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.</p> <p>Numeracy support is available through Maths Aid and help with academic writing is available from the Writing Development Centre (further information is available from the Robinson Library).</p> <p><i>Academic and Pastoral support</i> Each undergraduate and taught postgraduate student will be assigned a personal tutor.* A personal tutor is one part of a wider network of advice and guidance available to students to support their personal and general academic development. The module leader acts as the first point of contact for subject-specific academic advice. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Student-Staff Committee, and/or at the Board of Studies.</p>

Within the academic unit, students may also receive additional academic and pastoral advice from a range of other student-facing staff including degree programme directors, dissertation/project supervisors, and administrative support staff.

*Arrangements may vary for students taking special types of provision.

The University also offers a wide range of institutional services and support upon which students can call, such as the Writing Development Centre, Careers Service and Student Wellbeing Service. This includes one-to-one counselling and guidance or group sessions / workshops on a range of topics, such as emotional issues e.g. stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Student Union operates a Student Advice Centre, which can provide advocacy and support to students on a range of topics including housing, debt, legal issues etc.

Support for students with disabilities

The University's Disability Support team 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.

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.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-session language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

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

Programme reviews

The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Learning, Teaching and Student Experience Committee. The FLTSEC takes an overview of all programmes within the Faculty and reports any Faculty or institutional issues to the University Learning, Teaching and Student Experience Committee.

External Examiner reports

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

Student evaluations

All modules and stages* are subject to review by student questionnaires. Informal student evaluation is also obtained at the Student-Staff 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 students' views on the quality of the learning and teaching. The results from student surveys are considered as part of the Annual Monitoring and Review of the programme and any arising actions are captured at programme and School / institutional level and reported to the appropriate body.

*With the exception of intercalating years and the final stages of undergraduate programmes.

Mechanisms for gaining student feedback

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

Faculty and University Review Mechanisms

Every six years degree programmes in each subject area undergo periodic review. This involves both the detailed consideration of a range of documentation, and a review visit by a review team (normally one day in duration) which includes an external subject specialist and a student representative. Following the review a report is produced, which forms the basis for a decision by University Learning, Teaching and Student Experience Committee on whether the programmes reviewed should be re-approved for a further six year period.

Accreditation reports

Additional mechanisms

16 Regulation of assessment

Pass mark

The pass mark is 40%

Course requirements

Progression is subject to the University's Undergraduate Progress Regulations and Undergraduate Examination Conventions. In summary, students must pass, or be deemed to have passed, 120 credits at Stage 0. Limited compensation up to 40 credits and down to a mark of 35% is possible and there are re-assessment opportunities, with certain restrictions.

Weighting of stages

n/a

Common Marking Scheme

Foundation Year is a pass/fail programme, with no classifications.

Role of the External Examiner

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

- i. See and approve assessment papers
- ii. Moderate examination and coursework marking
- iii. Attend the Board of Examiners
- iv. Report to the University on the standards of the programme

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

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

The School Brochure: <http://www.ncl.ac.uk/marketing/services/print/publications/ordering/>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

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

Module	Type	Intended Learning Outcomes			
		A	B	C	D
SFY0001	Optional		2,6		1,2,5,8
SFY0002	Compulsory	6	6		3,4,5,8
SFY0003	Compulsory	1	2,4,6		5,6,8
SFY0004	Compulsory	1	2, 4,6		5,6,8
SFY0005	Optional	7	5,6		5,8
SFY0007	Compulsory		6	2	5,8
SFY0011	Optional	1, 4	2,3,6		5, 8, 10
SFY0012	Optional	5	2,3,6	4	4,5, 6,7,8,9,10
SFY0013	Optional	2	2,3,6	1,2,3	5,8
SFY0014	Optional	9	6		5,8
CSC6001	Optional	8	6		5,8
ACC1000	Optional	3	6,7		2,3,5,6,8