UNIVERSITY OF NEWCASTLE UPON TYNE

DEGREE PROGRAMME SPECIFICATION

1. Awarding Institution: University of Newcastle upon Tyne

2. Teaching Institution: University of Newcastle upon Tyne

3. Programme Accredited by: IChemE, Energy Institute

4. Final Award: BEng (Hons)

5. Programme Titles: Chemical & Process Engineering

6. UCAS codes: H800

7. QAA Benchmarking Group: Engineering

8. Date of production / revision: October, 2004

9. Programme Aims:

The aim of the Degree programme is to produce graduates who have a coherent understanding of chemical engineering, combining a sound theoretical grasp of the subject with practical experience and an awareness of their responsibilities to society and the environment. Graduates should be capable of becoming professional chemical and process engineers in Industry or of following a postgraduate route into a research, industrial or academic career. The BEng programme is designed to provide scope for students to develop a wide understanding of chemical and process engineering. In order to meet this aim, the Degree programme has the following objectives:-

1. To recruit good students from a range of geographical, social and academic backgrounds.
2. To produce graduates who have vision and the ability to address the challenges posed by society through the deployment of the skills and knowledge gained during their Degree course.
3. To equip students with a knowledge and understanding of the subject, including the core material specified by the accrediting professional institutions (The Institution of Chemical Engineers and the Energy Institute) and to provide opportunities for students to acquire further knowledge and choices according to their own interests as they develop over the duration of the programme.
4. To enable students to eventually meet the requirements of the accrediting Institutions for Chartered Membership
5. To equip students with appropriate practical skills in information processing, data analysis, problem solving, teamwork, and communication skills.
6. To encourage students to develop responsible attitudes towards the needs of society and the environment in the application of their engineering and economic knowledge and to ensure that they have particular regard for the importance of safety in their industrial life.
7. To encourage students to develop appropriate attitudes towards their own future professional

development.

8. To provide an environment within the School such that students enjoy the University learning experience sufficiently to want to maintain contact with the School in its future recruiting, teaching, research and social activities.
9. To provide a course of study which meets the FHEQ at Honours level and takes appropriate account of the subject benchmark statements in Engineering and UK-Spec professional standards.

10. Intended Learning Outcomes; Teaching and Learning Strategies and Methods; Assessment Strategies and Methods

The programme provides opportunities for students to develop, integrate, practice and demonstrate knowledge and understanding, qualities, skills and other attributes in the chemical and process engineering areas. The programme outcomes are referenced to the QAA Benchmark Statements for Engineering. A successful student will have:

A Knowledge and understanding

Knowledge and understanding of:

A1 Basic Mathematics and Chemistry that are relevant to Chemical and Process (C&P) Engineering.

A2 The fundamental concepts, principles and theories of C&P Engineering.

A3 Business and management techniques relevant to C&P engineering and Chemical Engineers.

A4 Detailed knowledge and understanding of the essential facts, concepts, principles and theories of C&P Engineering.

A5 The role of chemical engineers in society and the constraints within which their engineering judgement will be exercised, including the professional and ethical responsibilities of chemical engineers.

A6 The environmental and safety issues that affect C&P engineering and the issues associated with sustainable engineering solutions.

A7 Conceptual, elemental and detailed design of processes and process plant.

A8 Safe operation of processes and plant, including the use of IT for design, control and management.

A9 Codes of practice, design, the assessment of safety and environmental risks, and the legislative framework for safety.

Teaching Strategy

Knowledge and understanding is primarily imparted through a combination of lectures, tutorials, example classes, case studies, laboratory experiments, coursework and projects in all Stages. In some cases the formal lectures are supplemented by computer assisted learning (CAL) and a number of visiting lecturers and professors contribute to A6, A7, A8 and A9.

Learning Strategy
Throughout the course, learners are encouraged to undertake independent reading both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject. In the final year students are given guidance and directed to engineering literature related to their design projects. Feedback on essays and laboratory reports allows students to refine their presentation techniques in these areas and assess the level of their knowledge and understanding.

Assessment Strategy
Testing the knowledge base is through a combination of unseen written examinations and assessed coursework in the form of laboratory experiment write-ups, coursework reports, project reports and presentations. The proportion of in-course and written examination towards the final module assessment is usually 25 / 75 although this can vary as appropriate for the module and level of study. Some students may also examined through oral examination by the External Examiner.

B Subject-specific/professional skills:

The skills to:

B1 Execute safely a series of experiments and use laboratory equipment to generate data.

B2 Analyse experimental or computational results and determine their strength and validity.

B3 Prepare technical reports, specifications and give technical presentations.

B4 Use the scientific literature effectively and to search for information to develop concepts.

B5 Make engineering sketches and use computational tools and packages.

B6 Produce a conceptual or elemental design to a specification.

B7 Produce a full design specification for a process or process plant.

B8 Identify the required cost, quality, safety, reliability, appearance, fitness for purpose and environmental impact of the application of the design.

B9 Project manage a task.

B10 Determine the criteria for evaluating a design solution and evaluate the outcome of a design against the original specification.

Teaching Strategy
Subject-specific/professional skills are developed through laboratory experiments and project work (B1-B3), presentations (B4), design exercises throughout Stages 1, 2 and 3 (B5-B10). Lectures, tutorials, case studies and seminars of specific modules develop skills B5 (Process Design, Computer Applications), B6-B8 and B10 (Plant Design) and B9 (Process Design, Economics and Project Management). From the first year, students are required, after appropriate guidance, to search the literature for information and submit all written work in an appropriate scientific and engineering format so that B2-B4 are thoroughly integrated into all submitted work by the final Stage.

Learning Strategy
Students are encouraged to develop appropriate professional and practical skills (B1-B4) by monitored attendance at laboratory sessions during all stages of their studies. From the first year all written work

must be submitted in an appropriate scientific and engineering format and feedback on such work enhances learning of the skills B5-B10 culminating in the Stage 3 design project.

Assessment Strategy
Practical skills are assessed through laboratory experiment write-ups, coursework reports and project reports, presentations and unseen written examinations. Skills B5-B10 form a major part of the assessment of the Stage 3 design project.

C Cognitive skills:
Cognitive skills able to:

C1 Plan, conduct and report a programme of investigative work.

C2 Analyse and solve engineering problems.

C3 Design a process or process plant to meet a need.

C4 Be creative in the solution of problems and in the development of designs.

C5 Evaluate designs and make improvements.

C6 Integrate and evaluate information and data from a variety of sources.

C7 Take an holistic approach to solving problems and designing systems, applying professional judgements to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact.

Teaching Strategy
Intellectual skills are developed through the teaching and learning programme outlined above (and in more detail in section 11). Analysis and problem solving skills are further developed through example, classes, tutorials, coursework and project work. Experimental, research and design skills are further developed through coursework activities, laboratory experiments, and research and design projects. Individual feedback is given to students on all work produced.

Learning Strategy
Students in all years are encouraged, following appropriate guidance, to plan an carry out their investigative work and analyse the experimental data in critical manner. Feedback provided on all submitted work provides opportunities for students to improve their intellectual skills. In particular, the design project in the final year provides the opportunity to develop skills C2-C7.

Assessment Strategy
Analysis and problem solving skills are assessed through unseen written examinations and coursework. Experimental, research and design skills are assessed through laboratory experiment write-ups, coursework reports and project reports, presentations and unseen written examinations. Creative and design skills are assessed through coursework and unseen written examinations.

D Key (transferable) Skills

The skills to:

D1 Communicate effectively (orally and in writing), using more than one language where the student wishes to pursue language studies.

D2 Apply mathematical skills through modelling and analysis.

D3 Work as a member of a team (an interdisciplinary team where appropriate).

D4 Develop ideas and solutions to engineering problems.

D5 Use information and communications technology.

D6 Manage resources and time, plan, organise and prioritise work effectively to meet deadlines.

D7 Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry.

D8 Learn effectively for the purpose of continuing professional development and in a wider context throughout their career.

Teaching Strategy

Transferable skills are developed through the teaching and learning programme outlined above (and in section 11). Basic communication skills D1 are acquired through a dedicated module (CPE131 Communications Skills) as well as individual and team projects throughout other modules (e.g.CPE203) and the design projects in each Stage. These are then developed through feedback on written reports and presentations made as part of coursework assignments.

Learning Strategy

Skills D1-D3 are formally taught in specific skills modules (e.g. CPE131 Communications Skills, CPE132 Analytical Techniques, Process Design modules) and the students obtain feedback to enhance their learning as parts of those modules. Additionally, transferable skills are also applied in many subject-specific modules with students required to find information and give oral and/or written presentations throughout all years of study. Deadlines for submission of coursework are enforced encouraging students to develop D6 and this is supported by guidance provided during Induction week at each Stage of the programme. Design problems at each stage provide opportunity to develop skills D3-D8.

Assessment Strategy

Transferable and communication skills are assessed through coursework reports, presentations and oral examinations in a number of compulsory and optional modules throughout all stages. Particular emphasis in the assessment of final year design project is given to skills D1-D6.

11. Programme Features, Structure and Curriculum:

A Programme Features

The normal Undergraduate year is approximately 31 weeks, arranged in three terms and currently divided into two Semesters.

The programme normally lasts three years, although it is possible in addition to take a year in industry or spend time abroad at an approved university. Every Honours student studies 120 credits in each Stage, resulting in BEng candidates completing 360 credits. These credits are a mixture of compulsory and optional modules (as listed in 11 C) with some modules designated "core" and having implications for student progress.

Progression from Stages 1 and 2 to the subsequent Stage depends upon student reaching an overall Stage average at least 40 with all core module marks also at least 40. Limited compensation of marks of at least 35 us permitted for non-core module. Further details are contained in the University Examination Conventions.

C&P engineering students may choose electives during all three Stages to suit their interests and capabilities.

There is a Faculty Foundation Year for candidates not adequately qualified to embark on Stage 1 of Degree Programmes.

Particular features of the programme are:

- High content of laboratory-based practical work
- High content of design-based work often in teams
- Opportunity to gain workplace skills through the Placement year
- Opportunity to develop language skills if desired

(Refs: Newcastle University Undergraduate Progress Regulations; Degree Programme Handbook: and Stage handbooks)

B Programme Structure

Design projects provide a central theme to each Stage. As well as technical competence, these provide exposure to a wide range of learning outcomes, generally including elements of new knowledge, a broad range of intellectual activities and significant Professional and Transferable skills. A substantial mathematical base is provided in each Stage, together with a range of modules providing core C&P Engineering knowledge. The more analytical subjects also address intellectual abilities and transferable skills. Laboratory classes cover both practical and transferable skills. Stage 1 provides foundations of knowledge and understanding of fundamental C&P engineering issues such as energy and material balances, heat transfer and fluid properties. Foundations of chemistry, mathematics and computer applications are also provided.

Stage 2 continues the approach established in Stage 1, with design and its wide range of outcomes remaining central to the course. Mathematical knowledge is developed for higher level study. Technical modules extend both analytical and qualitative knowledge of C&P Engineering science. Safety and environmental impact are further developed as a formal topic of study. There is an option to study Business Management.

Stage 3 contains a major group process plant design project, as befits the candidates' greater maturity and independence. The project addresses many learning outcomes including acquisition of new knowledge, intellectual abilities, practical skills and transferable skills. Modules for a range of technical C&P Engineering studies develop understanding towards graduate level. There is also a strong management strand to this Stage in CPE302 Process Design, Economics and Project Management.

C Programme Curriculum

Stage 1
(a) all candidates shall take the following compulsory modules:

Compulsory modules (100 credits) – Core modules highlighted in bold

Code	*Credits*	*Descriptive title*
CPE101	**10**	**Process Safety (core)**
CPE110	5	Introduction to Chemical Engineering
CPE111	10	Fluids 1
CPE121	10	Heat Transfer 1
CPE126	10	Computer Applications
CPE129	**20**	**Chemistry for Chemical Engineers (core)**
CPE130	5	Computing for Chemical Engineers
CPE133	10	Energy & Material Balances
ENM105	20	Engineering Mathematics

(b) all candidates shall select, subject to the approval of the Degree Programme Director, further optional, non-core modules with a total value of 20 credits normally from the following list:

Elective modules (20 credits)

Code	*Credits*	*Descriptive title*
CPE124	5	Particle Technology
CPE125	5	Pollution Monitoring
CPE131	5	Communication Skills
CPE132	5	Analytical Techniques for Chemical Engineers
XXXXX	20	Language

With the approval of the Degree Programme Director, alternative Stage 1 modules may be added to the above list.

Stage 2

(a) all Stage 2 modules are Honours modules
(b) all candidates shall take the following compulsory modules:

Compulsory modules (100 credits) – Core modules highlighted in bold

Code	*Credits*	*Descriptive title*
CPE101	10	Process Safety
CPE202	10	Heat transfer, heat integration, HEX design
CPE203	5	Biotechnology
CPE211	10	Fluids 2
CPE223	10	Thermodynamics
CPE229	15	Reactor Engineering 1
CPE230	15	Introduction to Process Dynamics and Control
CPE231	10	Process Design 1
ENM223	5	Engineering Mathematics - Ordinary and Partial Differential Equations
ENM910	5	Engineering Mathematics - Vectors

(c) all candidates shall select, subject to the approval of the Degree Programme Director, further optional, non-core modules with a total value of 20 credits normally from the following list:

Elective 20 credits

Code	*Credits*	*Descriptive title*
ENG201	10	Introduction to Business Management
CPE226	5	Drying & Crystallisation
CAD203	5	Student Tutoring
CAD204	5	Student Tutoring
ENM236	5	Statistics in the Process Industries 1
ENM336	5	Statistics in the Process Industries 2
XXXXX	20	Language

(d) Students who take ENG201 must take it in both Semesters Students who took language in Stage 1 must take 20 credits of language in Stage 2. Candidates may not take both CAD203 and CAD204.

Any BEng student who passes Stage 2 with Merit at first attempt has the right to transfer to the MEng programme if they so wish.

Stage 3

(a) all Stage 3 modules are Honours modules
(b) all candidates shall take the following compulsory modules:

Compulsory modules (100 credits) – Core modules highlighted in bold

Code	*Credits*	*Descriptive title*
CPE203	5	Biotechnology
CPE302	10	Process Design, Economics & Project Management
CPE305	10	Separation Processes 2
CPE314	10	Reactor Engineering 2
CPE316	10	Process Control 2
CPE318	5	Laboratory and Project work
CPE321	40	Plant Design
CPE329	10	Biochemical Engineering

(c) all candidates shall select, subject to the approval of the Degree Programme Director, further optional, non-core modules with a total value of 20 credits normally from the following list:

Elective 20 credits

Code	*Credits*	*Descriptive title*
CPE306	5	Solids Handling
CPE325	5	Chemical Process Optimisation
CPE326	5	Process Measurement
CPE327	5	Data Management
ENM236	5	Statistics in the Process Industries 1
ENM336	5	Statistics in the Process Industries 2

(d) Students who have taken a language in both Stage 1 and Stage 2 must take ENM236 as one of the Semester 2 electives. ENM236 and ENM336 are not available for students who have already taken either or both modules in Stage 2

Curriculum map

Development of specific Intended Learning Outcomes occurs through the modules shown in the Curriculum Map.

	Intended Learning Outcome	**Module codes**
A1	Basic Mathematics and Chemistry that are relevant to Chemical and Process (C&P) Engineering	CPE129,CPE132,ENM105, ENM223,ENM910
A2	The fundamental concepts, principles and theories of C&P Engineering	CPE101,CPE110,CPE111, CPE121,CPE133,CPE125, CPE201,CPE203,CPE223, CPE226,CPE229,CPE230, CPE302,CPE306, CPE316,CPE318,CPE325, CPE326,CPE327,CPE328
A3	Business and management techniques relevant to C&P engineering and Chemical Engineer	ENG201,CPE302,CPE321
A4	Detailed knowledge and understanding of the essential facts, concepts, principles and theories of C&P Engineering	CPE124,CPE211,CPE231, CPE202,CPE203,CPE211, CPE221,CPE314,CPE318, CPE321,CPE325,CPE326, CPE327,CPE328,CPE329
A5	The role of chemical engineers in society and the constraints within which their engineering judgement will be exercised, including the professional and ethical responsibilities of chemical engineers	CPE101,CPE110,CPE125, CPE231,CPE321,CPE329
A6	The environmental and safety issues that affect C&P engineering and the issues associated with sustainable engineering solutions	CPE101,CPE110,CPE125, CPE321
A7	Conceptual, elemental and detailed design of processes and process plant	CPE101,CPE110,CPE126, CPE133,CPE202,CPE223, CPE226,CPE229,CPE231, CPE302,CPE305,CPE306, CPE321,CPE329
A8	Safe operation of processes and plant, including the use of IT for design, control and management	CPE101,CPE126,CPE130, CPE132,CPE221,CPE230, CPE231,CPE302,CPE305, CPE316,CPE321,CPE325, CPE326,CPE327
A9	Codes of practice, design, the assessment of safety and environmental risks, and the legislative framework for safety	CPE101,CPE125,CPE221, CPE229,CPE302,CPE321, CPE329
B1	Execute safely a series of experiments and use laboratory equipment to generate data.	CPE129,CPE130,CPE201, CPE202,CPE203,CPE211, CPE226,CPE305,CPE316, CPE318,CPE329
B2	Analyse experimental or computational results and determine their strength and validity	As B1, ENM236,ENM336

B3	Prepare technical reports, specifications and give technical presentations	As B1 and CPE131
B4	Use the scientific literature effectively and to search for information to develop concepts	CPE110,CPE131,CPE202, CPE203,CPE306,CP321
B5	Make engineering sketches and use computational tools and packages	CPE126,CPE130,CPE132, CPE230,ENM236,ENM336, CPE302,CPE305,CPE316, CPE321,CPE329
B6	Produce a conceptual or elemental design to a specification	CPE110,CPE133,CPE202, CPE302,CPE306,CPE329
B7	Produce a full design specification for a process or process plant	CPE321
B8	Identify the required cost, quality, safety, reliability, appearance, fitness for purpose and environmental impact of the application of the design	CPE133,CPE202,CPE321
B9	Project manage a task	CPE321
B10	Determine the criteria for evaluating the design solution and evaluate the outcome of the design against the original specification	CPE110,CPE133,CPE202, CPE321
C1	Plan, conduct and report a programme of investigative work	CPE129,CPE131,CPE202, CPE203,CPE211,CPE305, CPE316,CPE318,CPE329, ENM336
C2	Analyse and solve engineering problems	As A2 and A4
C3	Design a process or process plant to meet a need	CPE110,CPE133,CPE202, CPE302,CPE306,CPE321, CPE329
C4	Be creative in the solution of problems and in the development of designs	CPE110,CPE133,CPE202, CPE321
C5	Evaluate designs and make improvements	CPE110,CPE133,CPE202, CPE321
C6	Integrate and evaluate information and data from a variety of sources	All modules
C7	Take an holistic approach to solving problems and designing systems, applying professional judgements to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact	CPE321
D1	Communicate effectively (orally and in writing), using more than one language if the student wishes	CPE131,Languages,CPE203, CPE302,CPE321,CPE329
D2	Apply mathematical skills through modelling and analysis	CPE126,CPE130,CPE132, CPE230,ENM236,ENM336, CPE305,CPE316,CPE321
D3	Work as a member of a team (an interdisciplinary team where appropriate)	CPE110,CPE202,CPE321, CPE203, ENM modules, ENG201, CAD modules, Languages
D4	Develop ideas and solutions to engineering problems	As A4
D5	Use information and communications technology	All modules

D6	Manage resources and time, plan, organise and prioritise work effectively to meet deadlines	All modules with in course assessment, CPE321
D7	Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry	All modules, especially CPE202,CPE321
D8	Learn effectively for the purpose of continuing professional development and in a wider context throughout their career	All modules

12. Criteria for Admission

The full entry policy is stated on page 17 of the Undergraduate Chemical Engineering prospectus.

All applicants are considered individually on the basis of past academic performance and potential for achievement. For MEng, we normally expect ABB to BBB achievement at 'A' level in appropriate subjects, including Mathematics and Chemistry. We ask for BCC for intending MEng students who will progress to the Faculty Foundation Year. For BEng, we normally ask for a BBB to CCC performance for direct entry to both Stage 1 and the Foundation Year. From 2004, we use interviews as part of the selection process, which take into account contextual factors which may affect the academic performance of individual applicants (such as attending a poorly performing School etc).

Students who enter on the BEng stream may transfer to the MEng stream at the end of Stage 2 if they achieve a Pass with Merit for that stage. Pass with Merit is taken to be equivalent to a 2-1 standard.

Students are eligible to enter directly into the 2nd year of the Degree programmes if they hold diplomas in Chemical Engineering with suitable grades. Typically, we look for a final average of 60% or equivalent. Even then, all applications are considered on an individual basis, to ensure that the applicant has the necessary background to successfully complete Stage 2. Otherwise, the applicant will be offered entry into Stage 1.

13. Support for Students

Induction
The first week of the first term/semester is an Induction Week with no formal teaching. During this period all students will be given detailed programme information relating to their Stage and the timetable of lectures/practicals/labs/ tutorials/etc. In particular all new students will be given general information about the School and their course, 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).

Study skills support
Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification.

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 Senior Tutor, 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 Special Needs
Support for students with special needs is provided as required and the University's Disability Support Service can be consulted where appropriate. For further details see http://www.ncl.ac.uk/undergraduate/support/disability.phtml.

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-sessional 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 exchanges. See http://www.ncl.ac.uk/undergraduate/support/langcen.phtml.

14. Methods of evaluating and improving the quality and standards of teaching learning and assessment

Board of Studies
Programme quality is maintained by BoS which, in its regular meetings, reviews all aspects of teaching, learning and assessment.

Module reviews
All modules are subject to review by questionnaires which are considered by the School Teaching & Learning Committee (STLC), which then reports to the Board of Studies. Changes to, or the introduction of new, modules are considered at STLC and at the Board of Studies. Student opinion is sought through student questionnaires (see below), at the Staff/Student Committee and through student representation on STLC and 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 under Reserved Business, in the absence of the student representatives. The Board responds to these reports through Faculty Teaching and Learning Committee.

Accreditation reports
This programme is accredited by The Institution of Chemical Engineers and the Energy Institute.

Student evaluations
All modules, and the Degree programme, are subject to review by student questionnaires. The School operates a policy of seeking feedback on overall views on each module delivered in each Semester. In addition, two modules in each Semester and each Stage are selected by the Stage Tutors to be subjected

to detail student feedback. Informal student evaluation is also obtained at the Staff/Student Committee, and the Board of Studies.

Feedback mechanisms
Feedback to students is affected via the Staff/Student Committee and the Board of Studies. In Stage 1 an additional mechanisms of weekly small tutorial sessions provides an opportunity for feedback.

Faculty and University Review Mechanisms
The Programme is subject to the University's Internal Subject Review programme, see http://www.ncl.ac.uk/aqss/qsh/internal_subject_review/policy_09.01.03.pdf

Peer review of teaching
University requirement for peer observation and review of teaching is reflected in the School policy.

15. Regulation of Standards

Pass Mark
The pass mark, as defined in the University's Undergraduate Examination Conventions (http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.html), is 40.

Course Requirements
Progression is subject to the University's Undergraduate Progress Regulations (http://www.ncl.ac.uk/calendar/university.regs/ugcont.html) and Undergraduate Examination Conventions (http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.html). In summary, students must pass 120 credits at each Stage. Limited compensation down to 35 is possible at each Stage for non-core modules and there are resit opportunities, with certain restrictions.

Weighting of Stages
Modules taken at Stages 2 and 3 are Honours modules and the two stages contribute to the award of the final Degree in the ratio 40 / 60.

Common Marking Scheme
The University employs a common marking scheme, which is specified in the Undergraduate Examination Conventions (http://www.ncl.ac.uk/calendar/university.regs/ugcont.html), namely

	Honours	**Non-honours**
<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

The allocation of marks is governed by the Faculty Marking Criteria which are published and made available to all students in their Degree Programme Handbook

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 Meeting usually held in June
Report to the University on the standards of the programme

16. Indicators of Quality and Standards

Professional Accreditation Reports
This programme is accredited by The Institution of Chemical Engineers and the Energy Institute. At the last accreditation visit (March 2004) both Institutions accredited the programme and provided some valuable recommendations which are currently being addressed.

Internal Review Reports
This programme is due for Internal Subject Review in Semester 1 of the 2005/2006 academic year.

Previous QAA Reports
This programme received a QAA Subject Review in October 1995 and achieved a score of 21/24.

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.

17. Other Sources of Information:

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

The Departmental Prospectus (see http://www.ncl.ac.uk/undergraduate/subjects/xxx)

The University and Degree Programme Regulations (see http://www.ncl.ac.uk/calendar/pdf/uniregs.pdf and http://www.ncl.ac.uk/calendar/sae/)

The Degree Programme Handbook

QAA Subject Review Report