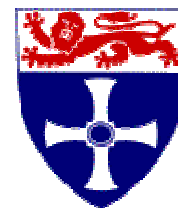


UNIVERSITY OF
NEWCASTLE UPON TYNE

FACULTY OF
SCIENCE, AGRICULTURE & ENGINEERING

DEGREE PROGRAMME SPECIFICATION

UNIVERSITY OF
NEWCASTLE



1. **Awarding Institution** : The University of Newcastle Upon Tyne
2. **Teaching Institution** : The University of Newcastle Upon Tyne
3. **Degree Qualification** : M.Sc.
4. **Programme Title** : Environmental Consultancy
5. **Programme accredited by** : N/A
6. **UCAS code** : N/A
7. **QAA subject benchmarking group** : Earth Sciences, Environmental Sciences and Environmental Studies
8. **Date of PS Production/Revision** : 30 November 2004

1. Programme Aims:

The programme aims:

- to provide a postgraduate qualification that bridges the gap between academic undergraduate programmes and an area of employment that recruits many natural science graduates
- to improve specialist skills in a chosen area of environmental science
- to develop skills needed to define and evaluate an environmental problem within a commercial and multidisciplinary framework that is constrained by regulation and limited resource
- to equip students with the knowledge base and skills required for employment in small or large businesses and organisations.
- to provide a programme which meets the FHEQ and which takes appropriate account of the subject benchmark statements in Earth Sciences, Environmental Sciences and Environmental Studies

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

A. Knowledge and Understanding :

The programme provides opportunities for students to develop and demonstrate:

- A1** core material considered essential for employment within the field of environmental consultancy, including the regulatory and quality frameworks within which a business functions, the structure of a business and the function of its component parts;
- A2** the scientific research method of including observational and experimental techniques for the acquisition of information, and the critical evaluation of that information through data analysis, interpretation and presentation of results;
- A3** appropriate statistical and numerical methods;
- A4** information technology that may be used to help data acquisition and interpretation, and the generation of text, work plans and graphs;
- A5** the literature relating to a chosen area of specialization.
- A6** an advanced knowledge and understanding of a range of appropriate optional subjects to suite

personal interests and career positioning including: Soil and Water Conservation, GIS and Remote Sensing, Contaminated land, Environmental Systems Modelling, Pesticides: Uses and Environmental Properties, Tropical Environments, Ecology and Land Use, Environmental and Rural Resource Economics, Wildlife Conservation: Policy and Practice, Ecosystem Management, Hydroecology, Trees: Growth, Management and Environmental Impacts, Microbial Transformations of Organic Pollutants.

Teaching strategy

Knowledge and understanding of The Environment Business, Quantitative Techniques, Experimental Design and Data Analysis, Field Techniques in Environmental Survey, Environmental Assessment: Land and Water Resources, Foundations of Environmental Law and Policy, Sustainable Development and Environmental Change is taught via lectures (A1-A4), practical classes (A2, A4), seminars (A3, A4), case studies (A2, A3, A4), presentations (A4), and field classes (A2, A4). Specialist knowledge and understanding of the core material is taught via lectures (A1-A5), practical classes (A2, A4), seminars (A1-A3), case studies (A1-A3) and field classes (A4) in the compulsory modules. A compulsory field class (A2) allows students to experience a wide range of generic field techniques employed in professional environmental surveys for assessing soil conditions/variability, landscape hydrology, vegetation and wildlife ecology. The 80-credit MSc consultancy report enables survey, experimental design, systems analysis and/or development and management knowledge to be taught in the context of a location of interest to the student (A1-A4). Optional modules enable students to concentrate on advanced specialist material of individual interest (A5), and/or remedy deficiencies in specific background knowledge. The Diploma Dissertation (20 credits) allows Diploma candidates to be taught how to undertake a more in depth and critical analysis of any of topics A1-A4 based on library research or secondary data.

Learning strategy

The understanding of lecture material is encouraged through independent reading (A1-A4) (Table 3) assisted by the provision of prioritised reference lists. Such learning is reinforced by formative feedback provided by practical exercises (A2, A4,A5), seminars (A1-A3, A5), case studies (A1-A3, A5), or the Diploma Dissertation for Diploma candidates (A1-A5), with active participation in fieldwork and a major research project leading to the MSc thesis (A1-A4) for MSc candidates, with some workshops and independent problem solving exercises (A4-A4).

Assessment strategy

Assessment of some modules (A1, A2) is entirely by in-course assessed work including practical class exercises, seminars, case studies, and problem solving exercises. Assessment of specialist knowledge and understanding is by formal unseen examinations and by coursework exercises that provide a fuller test of student understanding of the relevant literature (A1-A2, A4). Both employ a range of approaches in order to accurately assess student abilities. Written papers can include essay, calculation and multi-part questions. Assessed coursework comprises practical exercises, seminar presentations, case studies, literature reviews, scientific/technical reports and essays. Field class and other reports are also assessed (A1,A2). Some of A1-A5, (depending on the topic of the MSc project or Diploma Dissertation), are also examined by means of a written MSc consultancy report, or the Diploma Dissertation for Diploma candidates (A1-A5), and (at the discretion of the External Examiner) by *viva voce* examination.

B. Subject Specific/Professional skills:

The programme provides opportunities for students to develop and demonstrate:

- B1** ability to research and critically assess the functioning and management of environmental systems
- B2** improving specialist skills in a chosen area of environmental science.
- B3** develop skills needed to evaluate critically work produced by professional, environmental consultants.
- B4** provide students with the knowledge base and skills required for employment in small or large

businesses and organizations

B5 ability to plan a consultancy project and including financial aspects.

Teaching strategy

Research, classification and critical assessment skills are taught via lectures, seminars, case studies and practical classes (B1- B4). Experimental design, survey and analytical techniques, systems modelling, and data handling, presentation and appraisal (B3, 4) are taught initially in hands-on computer or laboratory-based practical or problem solving classes and in field classes. These skills are consolidated by more advanced training in the lectures, practical classes and case studies of subject-specific modules and in the residential field class for environmental survey techniques. Project planning skills (B5) are introduced as part of a specific module and in development of a full project proposal for the consultancy report. Further specialised skills (B2), are taught within optional specialised modules. More advanced training in several of skills B1-B5 is provided on an individual basis during the MSc consultancy project, for which students usually work within the existing research groups or in placements with environmental commercial organizations. Individual training for some of the skills B1-B5 are provided for Diploma candidates in the Diploma Dissertation.

Learning strategy

Independent reading of recommended references is important in understanding how knowledge is applied and techniques used (B1-B3). However, students are encouraged to acquire skills through active participation in project planning, experimental and survey design and data interpretation as part of the coursework and through participation in field sampling, analysis and data interpretation in the specialised field techniques in environmental survey module (B4). Learning is reinforced and further developed as MSc students apply their skills in data collection, analysis, interpretation and presentation in their MSc consultancy project and report (B1-5).

Assessment strategy

Formal examinations (B1, B2, B3) are used to assess some subject specific/professional skills, particularly when additional reading reinforces learning. However, most of these skills are assessed by coursework reports and presentations (B1-B5). Some of the skills (B1-B5) are further practiced and assessed by means of the MSc project report/thesis, the Diploma Dissertation, and (at the discretion of the External Examiner) by *viva voce* examination.

C Cognitive skills

The programme provides opportunities for students to develop and demonstrate conceptual ability to:

- C1** critically evaluate current research and advanced scholarship in the area of the interaction of society, business and environment;
- C2** critically evaluate the environmental effects and relationships of human activities and apply this to commercial situations and have a holistic awareness of current thinking and practice in development;
- C3** develop logical thinking and a structured approach to problem-solving, using and developing computer models where appropriate;
- C4** comprehend and critically interpret a range of environmental and ecological data, present and summarise such data to critically assess its significance, using statistical techniques where appropriate, and produce a reasoned argument;
- C5** formulate and design environmental and ecological surveys and develop integrated project proposals against different types of objectives;
- C6** formulate and test hypotheses using logical and consistent quantitative or qualitative criteria.

Teaching strategy

The cognitive skills C2-C6 are developed initially in the degree programme's compulsory modules

through a combination of lectures, practical classes, problem-solving exercises, case studies and field classes. They are progressed in the optional specialised modules, where they are applied to specific research or management issues, sometimes in a field-based environment (C5). Cognitive skills C1 are particularly developed in specific compulsory modules through lectures, seminars and case studies involving literature reviews, guided reading and critical analysis of presentations. The MSc project and report allow cognitive skills C1-C6 to be applied to a specific practical problem or issue guided by individual supervision. The Diploma Dissertation teaches the use of cognitive skills C1-C6 in the context of an in-depth and critical review of results.

11 Learning strategy

Students are encouraged to acquire cognitive skills in a variety of ways including: the development of a project proposal and development of a consultancy report (C2); through developing computer models to simulate environmental systems (C3); through experience of case studies, course work and discussion following seminars (C1-C6); and through designing a sampling and analysis strategy and analysing the data from an environmental field survey and reflecting on field exercises (C4-C5). The design and practice of the MSc research project is also important and is particularly useful for further developing all these cognitive skills but particularly for understanding the development of and testing of hypotheses (C6). The Diploma Dissertation is useful in developing some of the cognitive skills C1-C5.

12 Assessment strategy

Cognitive skills C2-C3 are assessed by coursework (case studies, problem-solving exercises, in-course tests, scientific/practical reports, project proposals, seminars and presentations). Cognitive skills C1-C6 are further assessed in specialised modules by written formal examination (C1-C5), seminars and case study reports (C1-C4), field survey or professional reports, project proposals and the MSc report (C4-C6). Many other of the skills C1-C6 are also examined by means of the MSc consultancy report and (at the discretion of the External Examiner) by *viva voce* examination. Diploma candidates skills C1-C5 are also tested by means of the Diploma Dissertation.

D Key (transferable) skills

The programme provides opportunities for students to develop and demonstrate

At the end of the course students will have acquired skills and demonstrated proficiency in:

D Key transferable skills

The programme provides opportunities for students to develop and demonstrate ability to:

- D1** communicate conclusions clearly to specialist and non-specialist audiences;
- D2** plan, organise and prioritise work activities in order to meet deadlines;
- D3** show originality and initiative in tackling and solving problems;
- D4** act autonomously in planning and implementing tasks at a professional or equivalent level;
- D5** take personal responsibility to independently advance their knowledge and understanding, and to develop new skills to a high level;
- D6** use library and other information sources skilfully and appropriately;
- D7** use IT resources skilfully and appropriately;
- D8** to make decisions in complex and unpredictable situations.
- D9** scientific analysis of technical data;

Teaching strategy

The teaching of transferable skills is an important part of the MSc and Diploma throughout many modules. Verbal presentation skills and dealing with critical feedback are developed in seminars (D1) associated with several modules. All skills (D1-D9) are important in planning, carrying out, presenting and being examined in the research project and MSc consultancy report. Field classes (D1-D4, D9), development of project proposals (D1, D3-D5, D7 and D8) and independent problem solving (D2-D9) teach students about the importance of communication skills, information sources and originality and

independence in the professional implementation of their knowledge.

Learning strategy

A wide range of methods is used to reinforce the teaching of key skills and aid understanding. Whilst there is some recommended reading (D1-D9) most key skills are better developed through field work (D1-D9), case studies (D1-D4, D6-D9), the MSc research project or Diploma Dissertation (D1-D9), seminars (D1, D3-D5, D9), problem solving exercises and logical framework development (D2-D9) and communicating information in short oral presentations and the MSc project (D1).

Assessment strategy

Key skills are rarely assessed by formal examination (D5-D9). Scientific/technical reports (D1-D9), project proposals, development of the consultancy project, the MSc report and oral examination, or the Diploma Dissertation, and other elements of assessed coursework (D1-D4, D6-D9) are the main methods of assessment. Assessed seminar presentations test oral communication and presentation skills, as does the final *viva voce* examination of the MSc thesis. (D1).

Integration of learning outcomes

It is a requirement of this programme that students 'demodularise' their work. For the intended employment sector it is vital that students integrate material from the different pedagogic and technical strands that make up the degree, and that the whole cohort functions as a group. Students will generate their own peer assisted learning procedures to enable them to do this, with guidance from the Programme Adviser and other academic staff. This will be carried out within the structure of a role-play consultancy company in which the students work as company staff and the Programme Adviser and colleagues represent the company directors. From day one students will be expected to respond to the reasonable demands of the Programme Adviser, that may not be in the programme handbook but that parallel the way work is undertaken in a consultancy business.

Level of provision

Students will come to this programme from a wide variety of backgrounds. Although it will be possible to take for granted that their skills have been developed to an appropriate level for the BSc, it is not possible to judge in advance the specific development needs that are required by each individual student. Thus the programme retains flexibility to meet the needs of individual students without compromising the progress of the group or the overall level of provision.

13 Programme Features, Structure and Curriculum

(i) Programme features :

This is a one year full-time modular programme and consists of 2 parts: *a taught component* which runs from late September until April, and *an independent project*, for which a consultancy report is submitted in August. The structure is summarised in Figure 1.

The taught component of the course consists of 80 credits compulsory modules and 20 credits optional modules. Five of the compulsory modules are dedicated towards advancing knowledge in general and specific relevant environmental issues while 3 are specifically devoted to improving key skills although there is some crossover, revision and application of skills in the different modules. There is a wide choice of optional modules available allowing students to pursue individual interests although we do provide 3 strongly recommended key options. Overall the course is designed to accommodate a range of students from varying academic backgrounds (including overseas students) and the nature of modules available reflects this.

Modules are 10 credits in value (100 hours study time inclusive of lectures, practicals etc) except for AES 835 (20 credits, see below for details) and the research project (80 credits).

The research projects may be laboratory based or equally may be done in a relevant environmental industry depending on students individual interests and placement availability. The key to the research project is flexibility and students will be encouraged to pursue their own interests with assistance provided by academic staff.

We will encourage publication of information produced by students if appropriate.

B Programme Structure

Five modules (4 x 10 credits each and a 20 credit module) are given during Phase 1 (*see Figure 1*). These are taught in the first term and are assessed through coursework and examination in January. Further compulsory modules (20 credits) are given over a shorter period in Phase 2. Two 10 credit specialist optional modules are normally taken in Phase 2. Most taught 'specialist compulsory' and 'optional' modules given over Phase 1 are examined in January and those in phase 2 are mainly examined by coursework. The learning outcomes described previously in Section 10 are mapped against module synopses below.

The knowledge and subject specific core modules include general environmental based studies (A1, A2) on environmental assessment, land and water resources (AGR 805) and sustainable development and environmental change (AES829) and provide students with a solid environmental background. More specialist knowledge on environmental consultancy business (A3-A5, B1,B5) is provided in the core module entitled The Environmental Business (AES 847). Content of these modules also involves development of key skills (D1-D5). AES 850 Project planning also provides preparation for the research project in an individual students chosen area (B2-B4).

The first of the cognitive and key modules (AES 827 Quantitative techniques, experimental design and data analysis) increases student data handling, computer (C1,C2,C5, D3)) and other cognitive skills such as experimental design (C5). IT skills, oral and written communication and the use of computer aids for presentation and use of spreadsheets in statistical and modelling applications are assessed early in the programme (C1, C2, D1 and D3). Cognitive and transferable skills are developed in the core 20 credit module AES835 Field techniques in environmental survey. An introduction to legal aspects of environment management is provided by LAW826 in Semester 1 (A1, B1).

In phase 1 AES835 Field Techniques in Environmental Survey (20 credits) is compulsory and provides students with the theoretical background and field techniques to design and carry out integrated environmental, ecological, soils and hydrological surveys. It includes a residential field class held in September that allows students to gain experience in specialist field techniques and develop skills in the

analysis and interpretation of data (A4, B4, CC4-C6, D1-D8).

There are three recommended optional modules including GIS and Remote Sensing (AES806) which provides skills in general and subject specific environmental areas (A1,A2, B1,B5) and cognitive and key skills (C4, C5, D1-D5).

AES850 Project Planning is a compulsory prerequisite for the consultancy project. It addresses project management skills and health and safety (B1, B3, C3-5, D1, D4). The 3 month consultancy project (AES 892), commencing in April-May, enables students to apply knowledge and understanding (A1-A5), subject specific skills (B1-B5), cognitive skills (C1-C5) and key skills (D1 –D5). Students are required to execute a full environmental consultancy project that can be laboratory, desk or literature based and may involve placement with a relevant industry. Students will be encouraged to pursue their own interests, develop contacts and/or be given names of potentially interested companies. The project is peer-reviewed at the time of submission, and managed using a peer support network and timetabled structure.

C Programme Curriculum

Environmental Consultancy

Code: 5054

1. (a) All candidates on the degree programme shall take the following compulsory foundation modules:

Code Credits Descriptive title

AGR805	(10)	Environmental Assessment: Land and Water Resources
AES827	(10)	Quantitative Techniques, Experimental Design and Data Analysis
AES850	(10)	Project Planning
AES829	(10)	Sustainable Development and Environmental Change
AES847	(10)	The Environment Business
LAW835	(10)	Foundations of Environmental Law and Policy
AES835	(20)	Field Techniques in Environmental Survey

(b) All candidates shall select, subject to the approval of the Degree Programme Director, further modules to a total value of 20 credits, normally chosen from the following:

Code Credits Descriptive title

AES828	(10)	Environmental Systems Modelling
AES806	(10)	GIS and Remote Sensing
CIV958	(10)	Hydroecology
CIV971	(10)	Contaminated Land
AES837	(10)	Pesticides: Uses and Environmental Properties
BIO803	(10)	Wildlife Conservation: Policy and Practice
AES854	(10)	Ecosystem Management
CIV926	(10)	Microbial Transformations of Organic Pollutants
AES845	(10)	Trees: Growth, Management and Environmental Impacts
AEF873	(10)	Environmental and Rural Resource Economics
AES838	(10)	Soils in the Tropical Environment
AES813	(10)	Soil and Water Conservation

Other modules may be selected, subject to the approval of the Degree Programme Director.

(c) All MSc candidates shall undertake the following 80 credit research project:

Code Credits Descriptive title

AES892	(10)	Consultancy Project
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Details of the assessment are provided in the Degree Programme Handbook.

2. MSc programmes are normally 12 months' full-time study but with the permission of the Degree Programme Director, can also be taken part time.

Diploma Programmes

3. Diploma programmes normally require nine months' full-time study and require the candidate to undertake study equivalent to 120 credits. With the approval of the Degree Programme Director, Diploma students would be expected to take one additional optional module (10 credits) from the list given in paragraph 1(c) above, or undertake a short, library-based dissertation (**AES794**). With the permission of the Degree Programme Director, the Diploma programme may also be taken part time.

Development of specific Intended Learning Outcomes occurs through the following modules (compulsory modules in bold text, optional modules in normal, italic text)

- A1.** a core of subjects considered essential for employment within the field of environmental consultancy, including the regulatory and quality frameworks within which a business functions, the structure of a business and the function of its component parts
AGR805, AES829, AES847, AES835, AES847, LAW835, AES806, AES892, AES794
- A2.** the scientific research method including observational and experimental techniques for the acquisition of information, and the critical evaluation of that information through data analysis, **A3** appropriate statistical and numerical methods;
AGR805, AES829, AES847, AES835, AES806, AES892, AES794
- A3.** appropriate statistical and numerical methods.
AES847, AES827, AES892, AES794
- A4.** information technology that may be used to help data acquisition and interpretation, and the generation of text, work plans and graphs.
AES827, AES892, AES794
- A5.** the literature relating to a chosen area of specialisation
AGR805, AES829, AES847, AES835, AES847, LAW835, AES806, AES892, AES794
- A6** an advanced knowledge and understanding of a range of appropriate optional subjects to suite personal interests and career positioning including: Soil and Water Conservation, GIS and Remote Sensing, Contaminated land, Environmental Systems Modelling, Pesticides: Uses and Environmental Properties, Tropical Environments, Ecology and Land Use, Environmental and Rural Resource Economics, Wildlife Conservation: Policy and Practice, Ecosystem Management, Hydroecology, Trees: Growth, Management and Environmental Impacts, Microbial Transformations of Organic Pollutants.
AES828, AES806, CIV958, CIV971, AES837, BIO803, AES854, CIV926, AES845, AEF873, AES838, AES813
- B1** ability to research and critically assess the functioning and management of environmental systems
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794
- B2** improving specialist skills in a chosen area of environmental science.
AGR805, AES829, AES847, AES835, AES847, LAW835, AES806, AES892, AES794
- B3** develop skills needed to evaluate critically work produced by professional, environmental consultants.
AGR805, AES829, AES847, AES835, AES847, LAW835, AES806, AES892, AES794
- B4** provide students with the knowledge base and skills required for employment in small or large businesses and organizations

AGR805, AES829, AES847, AES835, AES847, LAW835, AES806, AES892, AES794

- B5** ability to plan a consultancy project and including financial aspects.
AGR805, AES847, LAW835, AES892, AES794, AES850
- C1** critically evaluate current research and advanced scholarship in the area of the interaction of society, business and environment
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- C2** critically evaluate the environmental effects and relationships of human activities and apply this to commercial situations and have a holistic awareness of current thinking and practice in development
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- C3** develop logical thinking and a structured approach to problem-solving, using and developing computer models where appropriate
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- C4** comprehend and critically interpret a range of environmental and ecological data, present and summarise such data to critically assess its significance, using statistical techniques where appropriate, and produce a reasoned argument
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- C5** formulate and design environmental and ecological surveys and develop integrated project proposals against different types of objectives
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- C6** formulate and test hypotheses using logical and consistent quantitative or qualitative criteria.
AGR805, AES827, AES829, AES847, AES835, LAW835, AES850, AES892, AES794
- D1** communicate conclusions clearly to specialist and non-specialist audiences
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850
- D2** plan, organise and prioritise work activities in order to meet deadlines
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794
- D3** show originality and initiative in tackling and solving problems
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850
- D4** act autonomously in planning and implementing tasks at a professional or equivalent level
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850
- D5** take personal responsibility to independently advance their knowledge and understanding, and to develop new skills to a high level
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850
- D6** use library and other information sources skilfully and appropriately
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794
- D7** use IT resources skilfully and appropriately
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850
- D8** to make decisions in complex and unpredictable situations
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850

D9 scientific analysis of technical data
AGR805, AES829, AES847, AES835, AES847, LAW835, AES892, AES794, AES850

12 Criteria for Admission:

GCSEs required N/A

A-Level Subjects and Grades N/A

Alternative entry qualifications.

A 2nd class degree from a UK University, or its overseas equivalent, is normally the minimum qualification for entry. Preferred first-degree subjects are biology, geography, environmental science or agriculture. Other relevant science degrees, or an economics degree are also acceptable.

Admissions policy

Offers of places will be made to suitably qualified candidates based on information provided in the application form and will be conditional upon a satisfactory reference and upon the applicant achieving a minimum of a 2nd class degree, if they do not hold such a degree at the time of the application.

Arrangements for non-standard entrants

Applicants who hold non-standard qualifications, and/or have relevant experience, will be considered on an individual basis.

Any Additional Requirements.

Applicants for whom English is not a first language must provide evidence of a satisfactory command of English, preferably by means of a TOEFL score of 575 or greater, or by an IELTS score of 6.5 or greater.

13 Support for Students and their Learning:

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).

An induction period takes place at the start of MSc Phase 1. This includes

- An introduction to the modular MSc and Diploma Programme from the Degree Programme Director and meeting with other staff and students.
- An interview with the degree Programme Advisor/Personal tutor.
- Registration in the School of Biology with the Degree Programme Director – collect Degree Programme Handbook etc..
- Tour of Department and the City of Newcastle.
- Language Centre test if English is not the students' first language.
- Report to the Registrar's and the Finance Office staff in the University Ballroom to collect Union and Library cards, etc.
- Module selection with Degree Programme Director and/or Advisor/Personal Tutor

- Faculty introduction to services and facilities and Faculty reception.
- Normally a selected skills audit.
- Library skills session.
- Induction in teaching methods, study skills and information sources
- Field excursion to consider techniques in environmental survey as part of the module AES835, or a tour of University field stations and/or farms.
- Formal introduction to the use of computers and/or skills audit is provided during Induction Week. Students will register for access to the computer system, and receive a personal e-mail address, at the start of the academic year, during Induction Week.

Study skills support

- The Robinson Library houses the major book and journal collection in the University and has a large section dedicated to the biological sciences. These books are located on the fourth floor of the library and the liaison librarian is available on the fourth floor to provide help if necessary. A library card will be issued at the beginning of the academic year. The library has a wide range of library material from 'study skills', 'speed reading', through 'exams' to 'writing essays and dissertations'. These are available on a self study basis and are located on Level 2. There is a range of leaflets describing usage of the library, either as hard copy or through the Library's Web pages. In addition there are private study rooms, general work space and clusters of PCs. A series of Library and information skills workshops will be arranged for the MSc programmes during September and October and will be introduced in a special session during Induction Week (see timetable).
- The University Computing Service provides a large number of 'Common User' computers located in clusters in various buildings around the University. The largest of these clusters is in the Old Library User Area (OLUA) where there is also a member of computing staff available to provide help if required but there are also clusters in the Robinson Library and elsewhere on campus. Access to a machine is *via* a booking sheet located in the cluster room. For PCs, attempts are being made to standardise word processing and spreadsheet software across all Computing Service machines to Word for Windows and Excel but a range of other software is also available for use, e.g. graphics packages, reference managers with some available on the Apple-Mac system. The Computing Service provides help sheets in the use of this software and these can be obtained from the OLUA or from the Computing Service Office in the basement of Claremont Tower. Before using the machines students must register with the Computing Service at the Computing Service Office and obtain a unique identifier and password. The Faculty runs two computing facilities of workstations that are linked to the University Network. One facility, containing 82 workstations, is located in the Centre Block of the 2nd Floor of the King George VI Building and the other, containing 25 workstations, is located in Room 472 of the Ridley Building.
- The Language Centre is in the Old Library and provides facilities for learning English and a wide variety of other languages. Overseas students on arrival in Newcastle will be required to take an English language test in the Centre. The results of this test will be used to assess whether further English language training is required. The Language Centre provides this in-session training at specific times of year, however, remedial English classes can be arranged as and when required.
- Some students will already be in jobs, taking secondment to undertake the MSc programme. For others the University provides a Careers Service which is located on the 2nd Floor of the Armstrong Building where advice on all aspects of careers is available. There is a good reference section giving detailed information about potential employers, pamphlets to help you produce good CVs and letters of application, lists of potential vacation employment, etc. In addition, there are a number of Careers Advisors who are available to provide advice, help and guidance throughout your time in Newcastle. Although one Careers Advisor has particular responsibility for the students in the Schools of Biology and of Agriculture, Food and Rural Development, any immediate help required can be obtained throughout the day from whichever Advisor is on Duty and if necessary an appointment can be made to have a longer interview. Full details of all services are available on the University web site. The computer-aided careers guidance system, PROSPECTS PLANNER, is available on open access at reception.

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 Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the MSc 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-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 exchanges. See

<http://www.ncl.ac.uk/undergraduate/support/langcen.phtml>.

14 Methods for Evaluating and Improving the Quality and standards of Teaching and Learning:

Meetings with the Degree Programme Advisor

A system of regular meetings with the Degree Programme Advisor, allows regular monitoring of comment/feedback from students. This may relate to: the course structure; individual modules; teaching techniques; administration of modules; administration of degree programmes; timetables; and efficiency of centralised facilities (such as the library or computing provision).

Reviews of Individual Modules and the MSc Programme

Both individual modules and the MSc programme are periodically reviewed in the light of the following:

- Student evaluation data
- Feedback from past graduates
- Feedback from the external examiner
- Feedback from the University Annual Monitoring Review
- Feedback from the Internal Subject review
- Feedback from independent Institutional Audit (QAA, HEFCE)
- Relevance of the programme in relation to key issues
- Relevance of programme in relation to employability of graduates
- Relevance of the programme in relation to funding sources

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 under Reserved Business, in the absence of the student representatives. The Board responds to these reports through Faculty Teaching and Learning Committee.

Accreditation reports

There is no suitable professional body accrediting programmes of this nature.

Committees Responsible for Monitoring and Evaluating Quality and Standards

- Staff/Student Committee

This meets once a term and provides a forum for raising any academic-related concerns. All degree programmes run by the Department are considered. It is also an opportunity for staff to consult students about course developments. Students will need to elect a representative for their degree programme, this person's task will be to consult student colleagues and then represent their views at meetings.

- Board of Studies

There is a Joint Board of Studies for the MSc and Diploma degrees taught by the Schools of Agriculture, Food & Rural Development, Biology and Civil Engineering & Geosciences. It oversees the academic content of the course. The Degree Programme Director chairs this Board and the membership includes those involved in the teaching. It meets approximately once a term. There is student representation on the Board.

- Board of Examiners It is the responsibility of the Board of Examiners to assess students' progress and to recommend the successful award of degrees. There are internal and external examiners for the course.
- School Teaching and Learning Committee
- Faculty Teaching and Learning Committee
- University Teaching 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.

Feedback mechanisms

Feedback to students is effected 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 programme, see <http://www.ncl.ac.uk/internal/academic-quality/qualityhome.htm#2>.

Regulation of Assessment

Progress in the taught parts of the course is assessed by continuous assessment and/or by in-course examinations held in January during MSc Phase 1. The Board of Examiners considers progress at the end of Phase 1, after which students will be advised of their progress. The Board of Examiners advises progress in most of the other taught modules after the end of Phase 2. Individual modules vary in the relative weighting of examination and continuous assessment of course work, which may include practical classes, case studies, seminars or essays. Details are given in the module outlines. Feedback on the quality of submitted coursework will vary according to the type of assignment and is the responsibility of the individual module leaders. It may take the form of written comments or verbal feedback during seminars or tutorials. The MSc project is assessed by examination of the final MSc consultancy project report (AES 892) at the end of the course in August. MSc candidates are normally required to attend an oral examination in May that covers both their course work and the planning for their project work. For further details see *Regulations for Taught Postgraduate Masters Degrees* under Faculty Regulations for Higher Degrees on the University's Web site <http://www.ncl.ac.uk/calendar/university.regs/>

Written Examinations

Candidates will normally be examined by means of two hour examination papers for each of the taught modules taken in Phase 1. Titles of the examinations will be the same as module titles and examination numbers will be the same as module codes. Each examination script submitted is assessed independently by one internal and one external examiner. A second internal examiner may moderate marks. The contribution of the continuous assessment marks to the overall module mark will vary according to each module (see Module Outlines). Examination Timetables will be published by the Examinations Office.

The pass mark for the MSc degree shall be 50% (Table 1) on all papers or their equivalent. Normally there is opportunity to resit failed modules. In the case of failed modules, marks in the range 40-49 shall be condoned in accordance with the Faculty Regulations 6 (i), (ii) and (iii) (*see relevant section of University Calendar 2004-2005; this can be accessed on the University Website given above*). That is, the Board of Examiners may permit a candidate to qualify for the award of MSc provided that modules with a total value of no more than 40 credits have a mark between 40-49, and the average mark for all modules, including the project report, is at least 50. Candidates who fail to satisfy the Board in the written modular examinations may be awarded a Diploma in accordance with Faculty Regulations 8 (a), (b) or (c). Past examination papers, for the last two years, can be viewed on The School of Biology website: <http://www.ncl.ac.uk/biol/>

MSc Project Report Examination

Assessment is undertaken by at least two internal examiners, the principal of which is the candidate's supervisor, and the external examiner and considered by the Board of Examiners meeting in September. To satisfy the examiners in the project report, candidates must normally achieve an MSc Pass mark of 50%.

MSc Oral Examination

The oral examination covers all aspects of the course and may be held in May at the time of the interim Board of Examiners Meeting. The Examiners may wish to raise the major questions they have identified in their examination of the taught modules and the candidate's project preparation and engage with the candidate in discussion of them.

Consequences of Failure of MSc Project

In accordance with Faculty Regulations, a candidate who achieves a mark of 40-49 for the assessment of the project report may, at the discretion of the examiners, be permitted to re-submit the report in a revised form for assessment. This must be by such a date as the Board of Examiners shall specify and within 12 months of the date of the original submission. Where a student fails to meet the criteria for the award of a

MSc degree in sections 4-7 of the University regulations for Master of Science in the Agriculture and Biological Sciences, the student will be entitled as of right to the award of a Diploma provided that they meet the criteria specified in *Diploma Regulations in Agriculture and Biological Sciences*.

MSc with Merit

MSc degrees may be awarded with merit if, in the opinion of the Examiners, the candidate has achieved an average mark of 60-69 for both written papers and the project report.

MSc with Distinction

MSc degrees may be awarded with distinction if, in the opinion of the Examiners, the candidate has achieved excellence in all components prescribed for the award of the degree, with an average mark of ≥ 70 for both written papers and the project report.

Assessment Criteria

All postgraduate work is marked on a University scale ranging from 0-100, as explained in the Postgraduate Marking Criteria on the Faculty of Science, Agriculture and Engineering Website at: <http://www.ncl.ac.uk/sage/internal/teaching/admin/exams/index.htm>, which sets out the criteria to be used to assign marks. Most postgraduate work will be in three broad categories (Distinction, Merit and Pass) corresponding to First, Upper Second and Lower Second Class work at undergraduate level.

Assessments are made in one of three ways, as is appropriate to the teaching technique:

- marks given to papers sat during the January examination period in Phase 1. Unless stated otherwise on the paper, each answer will be given equal weight.
- marks given to submitted work from laboratory and field classes.
- marks given to assigned work such as projects, case studies, essays or problem solving exercises.

The module description and Module Leader will explain to students what form the assessment will take and the weighting of each separate element.

University General Regulations state that:

'Candidates are responsible for retaining all forms of assessed work returned to them after marking by examiners. Assessed work so retained may be recalled from candidates, if required by external examiners, or for examination review purposes, or for Quality Assessment or Audit purposes.' For MSc examination candidates will submit a dossier of coursework, after marking, for consideration by the external examiner.

Role of the External Examiner

Within the modular structure of the cross-school suite of taught course some modules are common to a number of taught MSc degrees. Therefore, FTC appoints external examiners to both the MSc degree programme and a set of modules, according to the relevant subject expertise and workload of the External Examiner. The appointment to the degree programme will be to assure the quality of the programme as well as the performance of the students on the programme. The Board of Examiners undertakes the initial allocation of modules to Externals, with FTC acting as an arbiter if required.

The external examiner is a distinguished member of the scientific community whose knowledge covers the range of activities covered by the course. The external examiner is a moderator and to do this he/she:

- Sees and approves examination questions
- Sees examination scripts and comments upon standards of marking
- Sees coursework and comments upon standards of marking
- Examines projects
- Performs *viva voce* examinations of some or all students
- Attends the May meeting of the Board of Examiners

- Reports to the University regarding standards and comparability of standards

16 Indicators of Quality and Standards:

Professional Accreditation Reports

Not applicable

Internal Review Reports

This programme is due for Internal Subject Review in 2006-07 when programmes in the School of Biology will be reviewed. <See the timetable at <http://www.ncl.ac.uk/internal/academic-quality/schdlisr.doc>> However, the programme is reviewed annually as part of the 'Annual Monitoring Review' process, which is subsequently approved by Faculty Teaching and Learning Committee.

Previous QAA Reports

The details will be subject specific, but the following template should be used:

This programme received a QAA Subject Review in <Month, year of review> and achieved a score of 22/24.

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 School of Biology web page: <http://www.ncl.ac.uk/biol/>

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