

1	Awarding Institution	University of Newcastle upon Tyne
2	Teaching Institution	University of Newcastle upon Tyne
3	Final Award	B.Sc. (Hons)
4	Programme title	Applied Biology
5	Programme Accredited by:	N/A
6	UCAS Code	C110 and C111
7	QAA Subject Benchmarking Group(s)	Biosciences
8	Date of production/revision	Produced April 2002/Revised August 2004

9 Programme Aims:

The programmes aim to

- (i) provide a course of study which meets the Quality Assurance Agency Benchmark Statement for Biosciences
- (ii) lead to a qualification which meets the criteria of the Honours level of the National Qualifications Framework for England, Wales and Northern Ireland
- (iii) produce graduates who have:
 - (a) a thorough knowledge and understanding of the biochemical and molecular basis of biology from the subcellular to whole organism level and an appreciation of relevant topics which are currently being researched both at Newcastle and elsewhere.
 - (b) well developed practical skills
 - (c) the ability to apply quantitative and qualitative analysis to biological systems
 - (d) an understanding of the range of disciplines, approaches and technologies, both traditional and new that are required to study problems in biological sciences
 - (e) an awareness of the impact of biological sciences on society and the environment
 - (f) a range of core skills including: the use of communication and information technology; the ability to assemble information from a variety of sources; the ability to prioritise work and to meet deadlines; the ability to work alone and with others; and, through the use of oral, literary or numerical skills, the ability to analyse problems and issues, propose potential resolutions and criticise alternatives
 - (g) a training which is suitable for: subject-related careers in research and development, teaching, advisory work or management in industry or government agencies; more general careers in which there is a greater emphasis on non-subject-specific skills; or as a foundation for more advanced study

**10(a) Programme Intended Learning Outcomes;
Teaching, Learning and Assessment Strategies:**

A Knowledge and understanding

The programme provides opportunities for students to develop and demonstrate:

- A1 A good knowledge and understanding of subjects fundamental to applied biology (biochemistry, biotechnology, immunology, molecular biology and microbiology).
- A2 A good knowledge and understanding of topics in optional areas of study (applied microbiology, human nutrition and health, and pure and applied organismal biology).
- A3 A basic knowledge and understanding of topics in general biology and of relevant quantitative topics, including statistics
- A4 An appreciation and knowledge of relevant current scientific developments.
- A5 An understanding of the importance of considering the scientific, social and environmental impact of developments in applied biology

Teaching Strategy

The primary means of imparting knowledge and understanding in all the above is through lectures supplemented, as appropriate, with practical and field classes, seminars and tutorials, some of which are delivered in the form of computer assisted learning (CAL) sessions. A4 is enhanced by the undertaking of an individual research project in the final year requiring a substantial literature review and interpretation of the experimentally generated data. Visiting speakers from a range of disciplines and case studies contribute to A5.

Learning strategy

Throughout the programme students are encouraged to supplement taught material by self-study of reading materials and appropriate information on the internet to which they are directed by staff. In the final year most of the directed reading is of research papers and guidance on their effective use is provided. Short tests are administered in some modules on completion of specific topics to enable students to monitor the progress of their learning. 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

Assessment of knowledge and understanding occurs by use of unseen written examinations (including essay questions, short answer and problem-solving as appropriate to the module and level of study) and by coursework (including essays, laboratory or case-study reports, in-course tests, research project work and dissertation, oral and poster presentations). The mix of examination and coursework varies as appropriate to the module but most modules include some aspect of formative assessment during the module in addition to the summative assessment. Some students will also be assessed by oral examination in the presence of the External Examiner.

B Subject-specific/professional skills

The programmes provide opportunities for students to develop and demonstrate:

- B1 Skills in quantitative techniques, including statistical analysis
- B2 Experimental skills including development of a hypothesis and the design, execution and evaluation of experiments using traditional and modern techniques and equipment
- B3 An ability to obtain, record and interpret data from experiments and information in various forms from the literature, including electronic sources
- B4 Critical evaluation of data and information in terms of its quality
- B5 The ability to present data in written format according to accepted conventions for scientific communication

Teaching Strategy

B1 is developed through specific modules (Quantitative Techniques, Skills and Numerical Methods in Biology) involving lectures followed by smaller group calculation classes or computing classes and completion of appropriate example calculations and analyses. Practical classes associated with many modules during the first two years and also one wholly practical-based module in stage 2 (Practical Biochemistry) progressively develop B2 and B3 which is greatly enhanced by the individual research project in the final year. The research project also makes a major contribution to B3, B4 and B5, as to a lesser extent do the Stage 2 and 3 skills modules (Biotechnology, Applied Biology II). 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 format so that by the final year B5 and the literature searching skills of B3 are thoroughly integrated into all submitted work.

Learning Strategy

Students are encouraged to develop appropriate quantitative and practical skills (B1-B4) by monitored attendance at formal classes during the first two years and subsequently through practice and discussion with their supervisor as part of their final year research project. From the first year all written work must be submitted in an appropriate scientific format and feedback on such work enhances learning of the skill outlined in B5.

Assessment Strategy

B1 is assessed through unseen examinations and, together with B2, B3 and B5, through coursework (laboratory reports, completion of quantitative and statistical calculation sheets, essays) during the first two years. Together with B4 these skills form a major part of the assessment of the final year research project.

C Cognitive skills

The programmes provides opportunities for students to develop and demonstrate:

- C1 An ability to critically evaluate information from many sources, including novel research data, in terms of its relative contribution to scientific knowledge and understanding.
- C2 The capability to interpret scientific information, both quantitative and qualitative, and explain complex scientific ideas in written and oral form.
- C3 An ability to: derive and recognise hypotheses based on existing knowledge; produce logical arguments (based on new or existing scientific, ethical or philosophical ideas) to support or disprove such hypotheses, where possible; identify the gaps in knowledge that must be filled before conclusions about the validity of a hypothesis can be reached

Teaching Strategy

Cognitive skills are developed progressively throughout the programme in modules containing practical classes, case studies, group discussions and essays. In the final year the individual research project and its associated dissertation require students to display all skills C1-C3 and they are supported by their supervisor when gaining full confidence in their ability to do this. At stage 3, the Social Impacts of Biology module uses interactive lectures and essay feedback to develop structured thinking about non-scientific issues (C3).

Learning Strategy

In all years students are encouraged to consider information and experimental data in a critical manner and to justify interpretation by logical development of ideas and reference to known facts. Planning, executing and reporting on their final year research project enhances the learning of these skills in a less controlled environment than in previous years. In-course work in the stage 3 skills module (Applied Biology II) also exercises and enhances these skills. The essay set in Social Impacts of Biology has the specific role of giving practice in developing logical, structured arguments.

Assessment Strategy

Cognitive skills are assessed through various forms of coursework (including laboratory reports, case studies and essays), culminating in assessment of the final year research project dissertation. The General Examination Paper is a formal, unseen paper which also assesses these skills

D Key (transferable) skills

The programme provides opportunities for students to develop and demonstrate:

- D1 The ability to communicate clearly by means of oral presentations and written documents appropriate to the target audience.
- D2 The ability to use library and other information sources skilfully and appropriately.
- D3 Effective use of communication and information technology.
- D4 The ability to plan, organise and prioritise work effectively in order to meet deadlines
- D5 The ability to work independently and as part of a team
- D6 Problem-solving skills and initiative

In addition, students on programme C111 have the opportunity, as part of their placement experience, to develop and demonstrate:

- D7 The ability to submit effective applications for employment
- D8 Self-appraisal skills with regard to the development of workplace skills
- D9 The ability to produce a development plan to help overcome identified skills weaknesses
- D10 The ability to demonstrate personal achievement by preparation of a suitable portfolio of evidence

Teaching Strategy

Some key skills, D1-D3, are formally taught in specific, compulsory skills modules (eg. skills component of Skills and Numerical Methods in Biology, Applied Biology II) while the others, as well as these, are integrated into subject-specific compulsory modules as appropriate to meet the aims of those modules. For those students on the C111 programme tutorials and one-to-one sessions

with the Placement Tutor help to develop D7 and D8-D9 are developed in the workplace under guidance from placement tutors.

Learning Strategy

While skills D1-D3 are formally taught, and the students obtain feedback to enhance their learning, as parts of those modules, the same skills are applied in many subject-specific modules with students required to find information and give oral or written presentation throughout all years of study. In these cases the student is learning not only subject-specific information but also D1-D3. Deadlines for submission of coursework are strictly enforced encouraging students to develop D4 and this is supported by guidance provided during Induction Week at each Stage of the programme. Students learn D5 and D6 mostly as part of the work associated with their final year research project and also as part of Applied Biology II plus, in the case of team work, in group assignments in two stage 3 modules (Biotechnology II, Cell Proliferation and Death). In addition most practical classes require students to work in groups of two or more to carry out the experimental work and obtain data which provides an introduction to the more complex team-working skills that are developed subsequently. For students on the C111 programme D8-D9 are developed as part of the placement with their workplace supervisor aiding in the learning process through regular appraisals.

Assessment Strategy

Key skills form all or a part of the assessed material in the skills part of Skills and Numerical Methods in Biology and in Applied Biology II, where all assessment is based on submitted coursework. In addition D1-D6 are indirectly assessed through their contribution to coursework (essays, oral and poster presentations, completion of final year research project and dissertation) in other modules. For students on the C111 programme D7 is assessed by their ability to obtain a suitable placement and D8-D10 are assessed for the City and Guilds Licentiate award which all students on C111 must submit for following their placement year.

11 Programme Features, Curriculum and Structure:

A Programme Features

The programmes are three-year (C110) and four-year (C111 - which includes a placement year in industry) full-time modular programmes.

Each non-placement year (Stage) consists of a taught component of 120 credits/year comprising compulsory and optional modules with values of 10, 20 or 30 credits. 10 credits are associated with 100 hours of study time (including timetabled classes and private study time).

The mix of compulsory:optional modules is 100:20 in each of Stages 1, 2 and 3. [In Stage 3 there is an integrative General Examination which is not associated with any additional study time beyond that linked to the 120 credits of taught modules but counts for 20 credits in the assessment of Stage 3 which therefore has a taught component of 120 credits but an assessment component of 140 credits]. In Stages 1 and 2 a number of modules are designated as “core” which has implications for progression (see below).

In Stage 1 the optional modules can be freely selected from a specified list but in Stages 2 and 3 the selection is of a specified area of study (Stage 2: microbiology, human nutrition, and applied or pure organismal biology; Stage 3: microbiology/biotechnology, human nutrition and health, organismal biology). Students on C110 may substitute a 10-credit module designed to enhance their workplace skills for one of their optional modules at each Stage if they wish: students on C111 gain workplace skills during their placement so this option is not available to them

Progression from Stages 1 and 2 to the subsequent Stage is dependent on having an overall average mark of greater than 40%. A mark of at least 40% must be achieved in all “core” modules but limited compensation for marks of at least 35% is permitted for non-“core” modules. Two resits are permitted for each module if necessary.

Particular features of the programmes are:

- Opportunity to gain workplace skills either through placement year or optional modules
- Opportunity to gain recognised qualification for placement year awarded by City and Guilds
- One module unique to the programme at each of Stages 2 and 3
- High content of laboratory-based practical work
- The opportunity to select an optional subject area to study in-depth
- The recognition of the importance of the social responsibilities of biologists
- Opportunity to carry out an individual research project in a dynamic research environment

B Programme Structure

In Stage 1 students are given a foundation knowledge and understanding (contributing to learning outcomes A1 and A3) in subjects which they will study in greater depth in subsequent years (biochemistry, microbiology and molecular genetics) but also study topics of general biology which give a more general background on which to build their specialism of applied biology. An introduction to statistics and to information technology contribute towards development of learning outcomes B1 and D1-3. Subject-specific skills, the ability to interpret scientific information and to communicate clearly (learning outcomes B1- B3, B5, C2 and D1) are each progressed in several compulsory modules as students develop the ability to carry out laboratory experiments, including recording, manipulating and interpreting data, and simple literature searches and to present information in an appropriate written format. The optional modules allow students to broaden their general knowledge of biology (learning outcome A3) and further develop subject specific skills.

At Stage 2 the compulsory modules enhance the knowledge and understanding of the subjects fundamental to applied biology while extending broad biological knowledge and competency in quantitative techniques (learning outcomes A1,A3). At this Stage students select to study an optional group of modules in a subject area which usually they will continue to study in Stage 3, though there is scope to move between some areas for students who wish to extend as well as deepen their studies. These options allow students to gain a good knowledge and understanding in applied microbiology, human nutrition and health, and pure and/or applied organismal biology (learning outcome A2). At this Stage students are exposed to knowledge at the forefront of some aspects of applied biology and through an industrial visit and case studies begin to appreciate the importance of considering the scientific, social and environmental aspects of new developments (learning outcomes A4, A5). Various modules continue to develop subject-specific skills (learning outcomes B1-B5) and students develop an ability to search for and use information from many sources and to

critically evaluate data and information in terms of its quality and contribution to knowledge (learning outcomes B4 and C1,C2). Key transferable skills development (learning outcomes D1-D6) is not associated with specialised skills modules at this Stage but forms an integral part of both compulsory and optional modules. Students following the C110 programme can further enhance their transferable skills development by selecting an optional module specifically designed for this purpose.

The placement year is an integral part of the C111 programme occurring between Stages 2 and 3. The year allows students to experience first-hand the application of biology in industrial situations. It enhances the understanding of concepts and processes covered theoretically in Stages 1 and 2 and puts much of their previous knowledge into context. In addition to many subject specific skills which are developed (learning outcomes B1-B5) students enhance their cognitive skills (learning outcomes C1-C3) and develop additional transferable skills (D7-D10).

Stage 3 is the culmination of the degree programme with a major component being the individual research project and dissertation (undertaken in an active research laboratory and supervised by a member of staff with current research activity in a related area) which requires students to have an in depth knowledge of a particular subject area (learning outcomes A1 or A2) and particularly to be aware of current developments at the forefront of research in that area (learning outcome A4). Completion of the project and dissertation demands high quality subject-specific, cognitive and transferable skills (learning outcomes B1-5, C1-3 and D1-6). Individual and group activities within lecture-based and seminar-based modules enhance some of these further (C1-3, D1-6). Lecture modules continue to develop good knowledge and understanding of core and optional subject areas (learning outcomes A1 and A2) and one module is dedicated to consideration of scientific, social, ethical and environmental issues of relevance to biologists (learning outcome A5). All modules taught at Stage 3 make substantial use of original research papers to support lecture material ensuring that students are aware of current developments and are able to deal critically with such information (learning objectives A4, B3, B4, C1-3). Communication of information plays an important part at this Stage further developing the students' abilities to produce written reports and essays, oral presentations using appropriate visual aids and poster presentations (learning outcomes B3-B5, C1-C2, D1-D3). Transferable skill development is integrated into most Stage 3 modules with time management (learning outcome D4) being particularly important at this Stage.

B Programme Curriculum

(C=Compulsory; CC= Compulsory & Core; O=Optional; O*=Optional for C110)

Code	Module Name	Credit	Type	Intended Learning Outcomes			
				A	B	C	D
Stage 1							
AGR 112	Introductory Biochemistry for Biologists	20	CC	1	1-5	2	1-5
BIO 102	Skills and Numerical Methods in Biology	20	C	3	1	2	1-5
BIO 103	Form and Function – Cells and Animals	20	C	1,3	1-3	2	1,3-6
BIO 104	Evolution	10	C	3		2	3
BIO 106	Plants, Microbes and the Environment	20	CC	1,3	1-5	2	1,3-6
AGR 105	Introduction to Genetics	10	CC	1,3		2	1,3,6
BIO 105	Behaviour and Ecology	20	O	3	1-5	2	1-6
MST 100	Biodiversity of Marine Animals	20	O	3	1-3,5	2	1,5
PSC 101	Physiology	20	O	3	2,3	2	1, 3-6
PSY 171	Biological Psychology	10	O	3			
PSY 163	Personality	10	O	3			1,4,6
Stage 2							
AES 260	Microbial Diversity and its Applications	10	C	1,3	2,3	2	1,3-6
BIO 200	Metabolism and Development	20	CC	1,3	3,5	2	1-5
BIO 202	Practical Biochemistry	10	CC	1	1-5	1-3	1-6
BNS 203	Biotechnology	10	C	1,4,5		1,2	1-6
BNS 207	Nutrition Principles	10	C	3		2	1
BNS 232	Introduction to Molecular Biology	10	CC	1		2	1-5,6
BNS 233	Quantitative Techniques	10	CC	3	1		3
BNS 216	Recombinant DNA Technology	10	CC	1,4	1-3	2	1,2,4-6
BIO XXX	Principles of Immunology	10	C	1	2,5	2	1

Subject Group A

BNS 220	Food Microbiology	10	O	2	1-3,5	2	1-6
AES 225	Microbial Ecology	10	O	2		1-3	1,6

Subject Group B

BNS 208	Experimental Human Nutrition	10	O	2	1-4	2	1-6
BNS 209	Introduction to Human Nutrition	10	O	2	1-4	2	1-6

Subject Group C

AES 217	Entomology	10	O	2	1-3,5	2	1,3,5
AES 261	Population Genetics and Natural Selection	10	O	2	2-4	2	1,3,5,6
AGR 224	Animal Parasitology	10	O	2	1,3	2	1-6

Subject Group D

AES 230	Functional Plant of Biology	10	O	2	1-4	2	1,4,5
NEU 201	Comparative Animal Physiology Theory	10	O	2		2	1
MSM 228	Animal Development	1	O	2	2,3	2	1,3-6

Other Optional Modules

EDU 214/914	Student Tutoring	10	O*				1,3-6
EDU 228/928	Advanced Student Tutoring	10	O*				1,3-6

Placement Year (C111 only)

C 1-10

Stage 3

BIO 302	Biotechnology II	20	C	1,4	3,4		1-2	1-6
BIO 303	Cell Proliferation and Death	20	C	1,4	3,4		1-2	1-6
BNS 301	Applied Biology II	10	C	1,4	3-5	1-3	1-6	

BNS 310	Social Impact of Biology	10	C	1,4,5	1-3	1
BNS 398	Research Project and Dissertation	30	C	1 or 2,4	1-5	1-3
MIC337	Microbial Production of Protein	10	C	1,4		1,2
<u>Subject Group A</u>						
BGM 305	Protein Engineering	10	O	2,4		1,2
BMS 303	Business for Bioscientists	10	O	2,4		1,2
AES 317	Plant Animal Interactions	10	O	2,4		1,2
BNS 328	Plant Pathology	10	O	2,4	1-3,5	1,2
AES338	Biological Control	10	O	2,4,5		1,2
<u>Subject Group B</u>						
BNS 315	Human Nutrition	10	O	2,4		1,2
BNS 316	Nutrition and Disease	10	O	2,4		1,2
BNS 314	Human Nutrition and Health	10	O	2,4,5		1,2
BNS 317	Plants as Food	10	O	2,4		1,2
<u>Subject Group C</u>						
AES302	Animal Ecophysiology	10	O	2,4	3,4	1,2
AES 311	Comparative Ecology of Photosynthetic Systems	10	O	2,4		1,2
BNS 326	Environmental Adaptations of Plants	10	O	2,4		1-2
<u>Additional Optional Modules</u>						
EDU 330/930	Student Tutoring	10	O*			1,3-6
EDU 333/933	Advanced Student Tutoring	10	O*			1,3-6
EDU 331/931	Management of Student Tutoring	10	O*			1,3-6
CAS 280/290	Learning from Work	10	O*			1,3-6

12 Criteria for Admission:

Students are admitted on an individual basis, with particular conditions tailored to each individual, but typical academic entry requirements are as listed below. Additional qualities such as initiative, organisational abilities, teamworking and demonstrable interest in or experience of the subject, as evident on the UCAS application, are desirable.

GCSEs required

GCSE Mathematics and Chemistry (or Dual award Science) required if not offered at A or AS level

A-Level, AVCE, AS Level

BBC/CCC from 18 units including a minimum of 12 units (preferably in science subjects) from 6- or 12- unit qualifications, and preferably including A level Biology. AS level Biology will be considered if offered with other science A levels. Chemistry preferred at AS level if not offered at A level.

Alternative entry qualifications

Scottish Qualifications – AABB/BBBBC at Higher Grade, preferably including Biology, Chemistry and another science subject. Combinations of Highers and Advanced Highers accepted

BTEC National Diploma – in Applied Science (Laboratory and Industrial Science) at overall Distinction grade

Access courses – modules in Biological Science essential and Chemistry, Mathematics or Quantitative Methods desirable (all at Credit level for HEFC).

International qualification - International Baccalaureate 30 points with Higher Level Biology. The equivalent in other qualifications will be considered. Evidence of adequate English language skills (TOEFL score of 575 or an ELTS score of 6.5 or greater) are required.

Mature students - Applications considered on merit, although evidence of recent study is required. Relevant work experience is also useful.

Admissions policy

All applicants are offered the opportunity to visit the Department to find out more about the degree programme, to speak with staff and current students and to see the facilities available.

Many applicants will be offered a place on the basis of their UCAS application alone but students with non- A/AS level or Scottish Higher Grade qualifications may be invited to visit and to have a discussion with the Admissions Tutor or other member of staff before an offer is made.

13 Support for Students and their Learning:

Degree Programme Handbook including:

- Information on the programme including degree and examination regulations, safety issues, assessment criteria and Gantt charts to plan time.
- Module outlines.
- Sources of advice and support.

Induction week programme:

- Tailored for each Stage of the programme to outline the coming year.
- Sessions on how to develop study skills, careers and information on central facilities depending on whether the students are new or returning.

Study skills support

- Introduction to specific study skills relevant to particular Stage of programme introduced in Induction week
- Study skill development included within some modules, particularly those that are programme specific
- Study skills support available on self-study basis in Robinson Library

Academic and pastoral support

Students are assigned a Personal Tutor who:

- Provides academic advice on module choice and any other issues, monitors progress and offers guidance where necessary and provides general pastoral care.

- Meets formally with tutees on a termly basis but is available for consultation throughout the year.

The programme is managed by a Degree Programme Director who will provide help to any student on the programme concerning both academic and pastoral matters

The Head of Department ultimately has responsibility for all students in the Department and is available to provide help to any student who needs it

Support for Special Needs

The University and the Student's Union provide a number of central services to support students with special needs:

- Disability Unit
- Student Counselling Service
- Student Welfare

Learning resources

- University Library – books, periodicals, journals, databases, electronic resources and self-tuition programmes for study skills plus access to Liaison Librarians.
- University Computing Service – access to an extensive range of software and the internet including the provision of a personal University e-mail address and the opportunity to publish web pages.
- Blackboard – a virtual learning environment available through the internet by which staff can provide additional learning support to students on specific modules
- Language Centre – high-tech learning facility which is available to all students who would like to improve their knowledge of a foreign language or learn a new one.
- Field stations – the University has a number of field stations relevant to biological sciences: Close House Estate, Moorbank Botanical Gardens, Dove Marine Laboratory and research vessel (*RV Bernicia*) and 2 University farms.

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

The quality and standards of the programme are monitored by reference to comments from students, staff, employers and external organisations, such as the Quality Assurance Agency, to ensure that the programme achieves its aims and meets the National Benchmarking Statement for the discipline.

Mechanisms for review:

- Module questionnaires issued in alternate years: students evaluate every module by completing a questionnaire which is analysed and then considered by the Board of Studies.

- Teaching questionnaires issued in alternate years: issued to students on every module to comment on the teaching quality of academic staff, the results then being used in staff appraisals.
- Degree programme stage questionnaire issued annually to students on all stages of the programme; results are analysed by the Board of Studies.
- External Examiners' Reports.
- Annual review of progression statistics, degree class achievement, employment.
- Biennial Degree Programme Review.
- Surveys of recent graduates.
- Internal Subject review.
- QAA review.

Committees responsible for monitoring quality and standards

- Board of Studies, whose responsibility is to oversee quality and standard of the programme
- Staff/Student Committee
- Board of Examiners
- Faculty Teaching Committee
- University Teaching Committee

Mechanisms for feedback to students on matters of quality and standards:

- Staff/Student Committee
- Student representation on Boards of Studies
- Circulation via e-mail to all students of Staff-Student Committee minutes
- Stage meetings with DPD.

15 Regulation of Assessment

Assessment rules and Honours Classification

All work is marked against the University mark scheme for which the pass mark is 40% for each module. Modules use a common set of explicit descriptors (provided in the degree program handbook) to assign marks, except where students have been given explicit alternative criteria in advance of specific pieces of work. to which they will apply.

Most modules are assessed by a combination of in-course assessment and a written examination taken at the end of the semester in which the module ends, although some are 100% coursework or examination. A variety of assessment methods are used including assessment of essays, case studies, laboratory reports, oral presentations, poster presentations, project dissertations, unseen examinations and open book examinations. Most work is produced individually but some is team-based. Peer assessment is used both to moderate team marks and to encourage critical

appraisal of work and a better understanding of assessment criteria. . The methods of assessment, their relative weighting and their timing appear in module outlines which are contained within degree programme handbooks and are available to current students *via* the School of Biology web site.

All modules at Stages 1 and 2 must be passed before progression to the next Stage. There are two resit opportunities. Final degree classification is based on a contribution of 25% of the overall weighted mean of modules taken at Stage 2 and 75% of the overall weighted mean of modules taken at Stage 3. The weighting of marks contributing to the degree for Stages 1, 2 and 3 is therefore 0:1:3. Marks for individual modules contribute to the overall Stage average according to the module's credit rating, ie. the mark for a 20 credit module has twice the weighting of a 10 credit module.

The University's degree classification scale, is as follows:

<u>Mark</u>	<u>Degree Class</u>
>70	First
60-69	Upper second
50-59	Lower second
40-49	Third
<40	Fail

Role of External Examiner

Assessment is overseen by a Board of Examiners who interpret marks and make recommendations regarding progression and ultimately the class of degree awarded. The composition of the Board is as laid down by the University but all academics concerned with delivering the degree or acting as personal tutor to students on the degree may attend and speak. Information on extenuating circumstances is provided by tutors to a Scrutiny Committee that considers the circumstances and advises the Board of Examiners accordingly.

The External Examiner is an independent expert in the discipline from another university. Their role is to:

- Comment on and approve honours examination papers
- Comment on and moderate the marking of examination scripts
- Comment on and moderate the marking of coursework and dissertations
- Conduct oral (*viva voce*) examinations for a representative range of Stage 3 students and all those falling close to the boundary to a higher Class, all students who have the potential for a First Class award and any student with an overall Fail mark
- Check standards and procedures
- Advise on programme content and methods of assessment

16 Indicators of Quality and Standards:

Taught within a School comprising groups last judged by the QAA as offering "excellent" taught programs.

Good reports in the University's Biennial Taught Programme Review and Internal Subject Review.

Positive External Examiner reports.

17 Other Sources of Information

Additional and contemporary information about this programme can be found in:

Degree Programme Handbooks

Programme leaflet

The University prospectus and University Regulations

The University's web page <http://www.ncl.ac.uk>

QAA Subject Review for Organismal Biosciences

http://www.qaa.ac.uk/revreps/subjrev/institution_indexes/uni_of_newcastle_upon_tyne.htm

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. It should be noted that there may be variation in the range of learning opportunities reflecting the availability of staff to teach them. While every effort will be made to ensure that the module or modules described in this specification are available, this cannot be guaranteed.

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