

PROGRAMME SPECIFICATION

1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	BSc (Hons)
4	Programme Title	Zoology
5	UCAS/Programme Code	C300
6	Programme Accreditation	Not applicable
7	QAA Subject Benchmark(s)	Biosciences
8	FHEQ Level	Level 6
9	Date written/revised	March 2011

10 Programme Aims

1. To provide a programme which: meets the National Framework for Higher Education Qualifications at Honours level; and takes appropriate account of the subject benchmark statements in Biosciences.
2. To recruit well qualified students from a variety of educational backgrounds who wish to undertake a wide ranging, coherent programme of study in Zoology.
3. To produce graduates with:
 - a) a thorough knowledge and understanding of modern Biology at a general level, and at a more advanced level of areas of modern Zoology including animal behaviour, conservation biology, animal physiology and animal ecology.
 - b) a wide range of graduate skills, including skills in: laboratory techniques; field techniques; scientific communication; and analysis of data.
 - c) an experience of a curriculum enhanced by an active research environment, which inspires enthusiasm for Zoology and encourages critical, constructive thinking.
 - d) qualifications to exploit a wide range of employment opportunities, including in conservation organisations, in biomedical institutes, in industry and commerce.

11 Learning Outcomes

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

Knowledge and Understanding

On completing the programme students should have gained:

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| A1 | Knowledge of Zoology from the molecular to the community level. |
| A2 | Knowledge of the diversity of animal and of the principles used to classify them. An understanding of phylogeny and evolution. |
| A3 | An understanding of the ways that different types of animals function, including their physiology and behaviour. An understanding of how animals are adapted to survive and reproduce in different environments. |
| A4 | An understanding of ecology, including of the relationships between different animals and between animals and plants. |
| A5 | Knowledge of aspects of subjects related to Zoology. This includes a background in Microbiology and Plant Biology. Marine Biology or Psychology can be studied as options. |

- A6 Experience and appreciation of the operation of the scientific method. This includes: observation; formulating and testing hypotheses; reporting and testing validity of results; and integration of results with wider knowledge.
- A7 An informed awareness of the relevance of Biological Knowledge to Society and to contemporary Human problems and needs. Knowledge of legal and ethical aspects of Animal Welfare. First-hand experience of the work performed by professional biologists

Teaching and Learning Methods

Teaching Strategy

Knowledge and understanding are principally imparted through lectures, tutorials and independent reading associated with them. Almost all modules of the course cover material relevant to A1-A3, and many are relevant to A4. A5 is particularly achieved at Stage 1, and by optional module choices..

Stage 1 establishes a solid grounding in modern Biology, and modules are shared with other Degree Programmes in Biology (C1C7, C100, and C180). This enables flexibility in transfer between degree programmes, especially Zoology and Biology, until well into Stage 2. The teaching at Stages 2 and 3 is more focused on areas of Zoology. Besides imparting factual knowledge, the teaching at Stages 2 and 3 encourages students to think critically about the evidence for factual knowledge, and about the limits of knowledge. Many subjects taught at Stage 3 reflect research specialities of staff and bring students towards the cutting edge of modern investigations. Students are introduced to primary research publications in scientific journals at stage 1, and develop skills at communicating about Science at each stage by guided practise in tutorials, practical classes and individual projects. A6 is also taught by practise in scientific investigations gained in practical classes, fieldwork and project work. A specialised lecture and seminar course imparts knowledge and gives opportunity for debate relevant to A7, as does an optional independent project that is conducted in a location of the student's own choosing, often overseas.

Learning Strategy

Throughout the taught component of the course, students are encouraged and expected to engage in independent reading, and are supported in this by the provision of reading lists, handouts and access to library and web-based resources, particularly the University's Blackboard Teaching site. Formative feedback is provided during tutorials, seminars and for practical work. Initiative is needed, and confidence gained, by students conducting their own project and in the optional 'Zoology Overseas' Module.

Assessment Strategy

Assessment is partly by way of unseen written examinations (essay-type questions, short answer questions, problem-solving questions as appropriate) and partly by way of coursework. In various modules, elements of formative, as well as summative, assessment are employed. In coursework, a variety of assessment methods are used. At stage 3 the distribution of exam-assessed and in-course assessed work is more polarised between modules, though as at stages 1 and 2 each form a major part of the whole stage 3 assessment

Intellectual Skills

On completing the programme students should have:

- B1 Experience in accessing and assessing validity of sources of zoological information. These sources include books, research literature, public media, and the World-Wide Web.
- B2 The abilities: to make observations; and to use appropriate instruments to collect data in scientific investigations. These abilities are important both for field and for laboratory work.
- B3 The abilities: to design experiments and surveys; and to use the scientific method to undertake original investigations.
- B4 The abilities: to select and use appropriate techniques for data analysis; and to present data using statistical, graphical and other techniques.

<p>Teaching and Learning Methods</p> <p><i>Teaching Strategy</i></p> <p><i>B1</i> is developed particularly by tutorial classes, library projects, and research project work. <i>B2-B4</i> are developed in taught laboratory and field classes and in project work. <i>B4</i> is introduced by a course in statistics at Stage 1, and further developed in practical classes at Stage 2 and the Stage 3 Residential Field Course. The Residential Field Course and the Research Project, both at Stage 3, are particularly significant by encouraging students to practise practical skills with the help of feedback from staff.</p> <p><i>Learning Strategy</i></p> <p>Students are encouraged to evaluate their progress and aided in some modules by questionnaires distributed during lectures or on Blackboard, and are by return of in-course work with comments. Several opportunities exist, especially at Stage 2, for students to offer constructive criticism to each other.</p>
<p>Assessment Strategy</p> <p>Subject-specific skills <i>B1-B4</i> are evaluated by assessed written reports. Assessment of laboratory and field work is a feature of some practical components and is often taken into account in the Research Project. <i>B2</i> and <i>B4</i> are particularly assessed by written report of the Research Project.</p>
<p style="text-align: center;">Practical Skills</p> <p>On completing the programme students should be able to:</p> <p>C1 Handle data from a variety of Zoological disciplines.</p> <p>C2 Interpret observations and data.</p> <p>C3 Appraise observations and data and produce a reasoned argument.</p> <p>C4 Communicate effectively about Science using both written and oral presentations.</p> <p>C5 Solve problems.</p>
<p>Teaching and Learning Methods</p> <p><i>Teaching Strategy</i></p> <p>Cognitive skills are developed through: lectures and seminars (<i>C1, C2</i>); practical classes in laboratory and field (<i>C2, C3</i>); and tutorials and seminars (<i>C4</i>). They are refined during Stage 3 in project work during the Residential Field Course and Zoology Overseas as well as during the Research Project.</p> <p><i>Learning Strategy</i></p> <p>Independent and group project based exercises reinforce these lessons and allow self-evaluation and critique. Some practical classes, as well as the project work, involve problem solving.</p>
<p>Assessment Strategy</p> <p>Cognitive skills are assessed by: unseen written examinations (<i>C1</i>); reports on practical work including the research project and residential field course (<i>C2</i>); assigned work reports, student talks, seminars, poster presentations and particularly by the Research Project report (<i>C3, C4</i>).</p>
<p style="text-align: center;">Transferable/Key Skills</p> <p>On completing the programme students should be able to:</p> <p>D1 Use sources of information effectively.</p> <p>D2 Summarise and communicate orally, graphically and in writing in a manner appropriate to the target audience.</p>

- D3 Work effectively both independently and as a member of a team.
- D4 Plan a programme of work so that the work is both competent and timely.
- D5 Recognize and solve problems.
- D6 Develop a sense of responsibility to society and the environment.

Teaching and Learning Methods

Teaching Strategy

Key skills (*D1-3* and *D5*) are taught through: lectures and tutorials in BIO1010 Biology in Action at Stage 1, BIO2020 Experimental Design and Statistics for Biologists at Stage 2 and by work for library and other projects in Stage 3. *D6* is developed tBIO3015 Social Impacts of Biology Module and BIO3012 Conservation Biology Issues.

Learning Strategy

Key skills are practised under guidance from teacher feedback in practical classes and in specialise tutorials at Stage 2, and developed further through project work at Stage 3. All work that is assessed in-course is subject to submission deadlines (*D4*). *D5* is developed by practical work, Zoology Overseas, and the Research Project.

Assessment Strategy

Key skills are assessed in student talks, seminars at Stage 1 in Experimental Design and Statistics for Biologists and in exercises in Experimental Design and Statistics for Biologists at Stage 2, by (*D1-D2*), reports for BIO3024 Zoology Overseas, BIO3196 Research Project and BIO3022 Residential Field Course (*D1-D4*).

12 Programme Curriculum, Structure and Features

Basic structure of the programme

Stage 1

At Stage 1, students are given a thorough grounding in Zoology and Biology in general (*A1-4*). Introduction to associated subjects (Psychology or Agriculture) can form a small part of the year's study (*A5*). All the subject-specific skills specified (*C1-4*) are developed by the practical components of these modules, as are some cognitive (*B1-3*) and key skills (*D1-3*). Communication and numerical skills are developed and enhanced in a specifically designed module Biology in Action(*A6*; *B1,2,4*; *C1,2,4*; *D1,2,3*)

Stage 2

At Stage 2, both the depth and breadth of zoological knowledge (*A1-5*) are increased to provide a wide-ranging introduction to the subject. Some courses are based on taxonomic groups (eg, vertebrates, insects, contributing particularly to *A2*), whilst others deal with topics (animal behaviour, development and physiology) from a comparative perspective. Subject-specific skills are developed by modules on and practical classes (*C2 - 5*). Skills in communication contributes to outcomes, *B1, B4* and *C1* and *D1, D2* and *D4*. Work in practical classes and promotes independent and collaborative endeavour (*D3, D4*) and problem solving (*D5*).

Stage 3

At Stage 3, knowledge and understanding (*A1, A3 and A4*) are developed by compulsory lecture-based modules, which refer to primary research literature. These exemplify the programme's approach to the subject which relates to different levels of organisation of animals (eg, from molecule to ecosystem; *A1*). Optional modules (eg, on Conservation Biology or Plant-Animal Interactions) broaden the learning experience at this stage (*A2*). The Project (BIO3194/5/6) further develops experience in accessing sources of zoological information (*C1*) and most cognitive (*B1, B3, B4*) and key skills (*D1-4, D6*). The

Social Impacts of Biology Module provides grounding in relevance of biological knowledge to society (A7). Zoology Overseas promotes an interest in the work of professional zoologists in a contemporary setting, encourages problem solving skills (B4, D5), and develops the ability to communicate in a manner appropriate to the target audience (D2) and a sense of responsibility to society and the environment (D6). The Field Course and the Project develop an appreciation of the scientific method (A6), all subject-specific skills (C1-5) and many cognitive skills (B2-4) and key skills (D1-5).

Duration: three years arranged in three Stages; a total of 360 credits, 120 credits in each Stage. Module credit values vary between 10 and 20 (10 credits represents 100 hours of student activity).

Progression: Pass in 120 credits is required in Stages 1 and 2. Modules that are failed with a mark of 35% or more can be compensated for by passes at 40% or more in other modules. The Board of Examiners may recommend a pass at a lower mark if circumstances warrant.

An important feature of the degree programme at all stages is that laboratory and field studies are integrated into the programme. There is a system of specialist tutorials and library projects at Stage 2. An introduction to original investigations is provided in the Residential Field course, and the major Research Project is carried out in collaboration with a member of academic staff. The innovative Zoology Overseas optional module provides opportunity to gain first-hand experience of professional biological work.

Key features of the programme (including what makes the programme distinctive)

Through the study of zoology students address questions such as: why do bees dance? How do seals dive for such long periods? Students may also choose to investigate animals and their habitats, or the threat of extinction for rare species. Students will also learn about the practical applications of the subject, including the design of effective conservation programmes and the use of animals as models in the investigation of medical-related problems.

We first provide an excellent, all-round introduction to Biology, with flexibility to change between the Zoology and Biology Degrees. In later stages of the course, we specialise in particular areas of modern Zoology including animal behaviour, evolution, conservation and biodiversity, and marine biology. We have particular strengths in marine mammals, birds and insects.

One of the special features of our curriculum is BIO2003 Field Identification Skills (field courses) run between the 1st and 2nd years. We know that UK employers in the environment sector ask for.

Skills taught in this course, including ability to identify insects and birds.

Our second field course is a residential one, away from Newcastle, between the 2nd and 3rd years. This focuses on animal ecology and behaviour. Students work in a group to plan and carry out a piece of research, and then write it up in publication format.

Probably unique to Newcastle, our overseas optional module involves students visiting a team of Zoologists for a week or two in the summer after their 2nd year, then acting as a scientific journalist in order to report on the activities you observe. Recent locations visited include the Amazon, studying jaguars, and Borneo, studying frogs. It is largely a student's own task to organise this assignment.

In the final year, the largest piece of work is an individual project supervised by a member of staff with appropriate expertise. This can be a piece of field or laboratory research, a detailed research review, or an information-dissemination exercise culminating in the production of educational materials on a specific topic for a targeted audience.

Also in the 3rd year we run a module dealing with the ethics and impacts of modern Biology on society and the global environment. This helps students to develop robust opinions on the wider issues that relate to your core scientific knowledge.

During the 2nd year students can improve their career skills via a structured approach to work in a local school, volunteering activity or part-time employment.

Programme regulations (link to on-line version)

Go to <http://www.ncl.ac.uk/regulations/docs/> and follow links for 2011/12 Degree Programme Regulations, SAGE Faculty, School of Biology, Zoology C300.

13 Criteria for admission

Go to <http://www.ncl.ac.uk/undergraduate/course/C300/entrance-requirements>

14 Support for Student Learning*Induction*

During the first week of the first semester ('Welcome Week') students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures, practicals, labs, tutorials, etc. The International Office offers an additional induction programme for overseas students.

Study skills support

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

Numeracy support is available through Maths Aid.

Help with academic writing is available from the Writing Centre.

Academic support

The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, 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. In addition the University offers a range of support services, including one-to-one counselling and guidance or group sessions/workshops on a range of topics, such as emotional issues eg. Stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Union Society operates a Student Advice Centre, which can provide advocacy and support to students on a range of topics including housing, debt, legal issues etc.

Support for students with disabilities

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

Learning resources

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle

University. Where appropriate, in-session language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

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

Module reviews

All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Programme reviews

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

External Examiner reports

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

Student evaluations

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

Mechanisms for gaining student feedback

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

Faculty and University Review Mechanisms

The programme is subject to the University's Internal Subject Review process. Every five years degree programmes in each subject area are subject to periodic review. This involves both the detailed consideration of a range of documentation, and a two-day review visit by a review team which includes an external subject specialist in addition to University and Faculty representatives. Following the review a report is produced, which forms the basis for a decision by University Teaching and Learning Committee on whether the programmes reviewed should be re-approved for a further five year period.

16 Regulation of assessment

Pass mark

The pass mark is 40 (Undergraduate programmes)

Course requirements

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

Weighting of stages

The marks from Stages 2 and 3 will contribute to the final classification of the degree
The weighting of marks contributing to the degree for Stages 2 and 3 is 25:75

Common Marking Scheme

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

	Modules used for degree classification (DC)	Modules not used for degree classification
<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 University employs a common marking scheme, which is specified in the Taught Postgraduate Examination Conventions, namely:

Role of the External Examiner

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

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

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

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

The School Brochure (contact Biology.TSO@ncl.ac.uk)

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

The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Programme Specification Annex for C300 Zoology (2011 to 2012)

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Code	Type	A	B	C	D
Stage 1					
BIO1013	Compulsory	1			
BIO1019	Compulsory	1,3		2	
BIO1001	Compulsory	1		2	
BIO1002	Compulsory	1,2		2	
BIO1003	Compulsory	5		2	
BIO1004	Compulsory	5		2	
BIO1005	Compulsory	1,2			
BIO1006	Compulsory	1,4		2	
BIO1010	Compulsory				
BIO1007	Optional				
PSY1006	Optional	5			
ACE1022	Optional				
Stage 2					
BIO2002	Compulsory	4,7			
BIO2003	Compulsory	2		2	
BIO2007	Compulsory	2			
BIO2008	Compulsory	2	3		
BIO2009	Compulsory	4			
BIO2010	Optional	1			
BIO2013	Compulsory	3	2	2,3	
BIO2014	Compulsory	3	2	2,3	
BIO2019	Compulsory	1			
BIO2020	Compulsory				
BIO2006	Compulsory	1,2			
MST2001	Optional	5			
MST2013	Optional	5			
PSY2007	Optional	5			
Stage 3					
BIO3001	Compulsory	3			
BIO3014	Compulsory	1,2			
BIO3015	Compulsory	7		1	1,6
BIO3016	Compulsory	1,3			
BIO3022	Compulsory	6	2,3,5	2,3,4	3,5
BIO3194	Compulsory**				
BIO3195	Compulsory**		1,2,3,4,5	1,2,3,4	2,3,4,5
BIO3196	Compulsory**		1,2,3,4,5	1,2,3,4	2,3,4,5
ACE3049	Optional	3,7			
BIO3002	Optional	1,4			
BIO3003	Optional	1,4	3		1,2,4
BIO3006	Optional	1,4			
BIO3012	Optional	4,7			
BIO3009	Optional	1,5			
BIO3024	Optional	7	1,4	1	2,4,6

Notes:

** Students must select one from BIO3194, BIO3195 or BIO3196.