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 Benchmarks**	Biosciences (2007)
8	**FHEQ Level**	Level 6
9	**Date revised**	April 2014

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 (2007).
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 the following.

a) A thorough knowledge and understanding of modern Biology at a general level, and in particular of the evolutionary relationships, ways of life and ecology. At a more advanced level, students will have knowledge and understanding of particular areas of modern Zoology including animal behaviour and conservation biology, animal physiology and animal ecology.

b) A wide range of graduate skills, including: laboratory techniques; field techniques; scientific communication; and numerical data analysis.

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 in a number of sectors including: education; research; nature and conservation; biomedical; 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:

A1 Knowledge of Zoology from the molecular to the community level.

A2 Knowledge of the diversity of animals 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. Optional modules in Marine Biology or Psychology are offered in the degree.

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 by modules on cell and molecular biology, plants and microbes at Stage1, and by optional module choices in marine biology and in psychology at stages 1 and 2.

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 the start of 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. *A7* is taught largely through the Stage 3 'Current Zoology' module, in which students are encouraged to reflect on then relevance of their knowledge in Zoology to societal issues, and will learn legal and ethical aspects of animal experimentation and welfare.

Learning Strategy

Throughout the taught component of the course, students are encouraged and expected to engage in independent reading. They are supported in this by the provision of reading lists, hand-outs and access to library and web-based resources, particularly the University's Blackboard Teaching site and links to ReCap recordings of lectures. Formative feedback is provided during tutorials, seminars and for practical work. Initiative is needed, and confidence gained, by students conducting their own extended project in the final year.

Assessment Strategy

In many modules, particularly those that include lectures and practical work, 50-80% of the assessment is from a written examination and 20-50% is from coursework, which is often in the form of practical write-ups. In various modules, elements of formative, as well as summative, assessment are employed. Components of the written examinations taken by Zoology students include: unseen essay-type questions; pre-prepared essay questions; short answer questions; and problem-solving questions. Some modules are assessed entirely by coursework, particularly those which include a substantial amount of independent, project-type work. 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.

Teaching and Learning Methods

Teaching Strategy

B1, B3 and B4 are all introduced to students in class exercises and small-group tutorials in the Stage 1 module 'Biology in Action'. Later on, *B1* is developed in various modules, but particularly in the final year project module. *B2* is developed in taught laboratory and field classes; those students taking the research project module, skills of using appropriate instruments and methods to gather data and conduct experiments are further enhanced. *B3* is developed in laboratory and field work in taught modules, and by in the research and biological information projects. *B4* is taught extensively by a course in statistics at Stage 2, 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.

Learning Strategy

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, for example in tutorials at Stage 1, for students to offer constructive criticism to each others' work.

Assessment Strategy

Subject-specific skills *B1-B4* 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. *B2* and *B4* are particularly assessed by the written report of the Research Project and in the Residential Field Course.

Practical Skills

On completing the programme students should be able to:

C1 Handle data from a variety of Zoological disciplines.

C2 Interpret observations and data.

C3 Appraise observations and data and produce a reasoned argument.

C4 Communicate effectively about Science using both written and oral presentations.

C5 Solve problems.

Teaching and Learning Methods

Teaching Strategy

Cognitive skills are developed through: lectures and seminars (*C1, C2*); practical classes in laboratory and field (*C2, C3);* and tutorials and seminars (*C4*). They are refined during Stage 3 in project work, including the Residential Field Course as well as the particular 30-credit project undertaken by a student..

Learning Strategy

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.

Assessment Strategy

Cognitive skills are assessed by: unseen written examinations (*C1*); reports on practical work including the research project and residential field course (*C2*); assigned work reports, student talks, seminars, poster presentations and particularly by the Research Project report (*C3, C4*).

Transferable Key Skills

On completing the programme students should be able to:

D1 Use sources of information effectively.

D2 Summarise and communicate orally, graphically and in writing in a manner appropriate to the target audience without using backslash as punctuation.

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 at stage 3 in the modules BIO3012 Conservation Biology Issues and BIO3037 Current Zoology.

Learning Strategy

Key skills are practised under guidance from teacher feedback in practical classes and in specialised tutorials at Stage 1, 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, and the Research or Biological Information Project.

Assessment Strategy

Key skills are assessed in student talks, seminars at Stage 1, in Experimental Design and Statistics for Biologists at Stage 2, by (*D1-D2)*, 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 Biology in general (A1, *A4*) through modules in: cell and molecular biology (BIO1019; BIO1001); evolution and genetics (BIO1005; ACE1013); ecology (BIO1006); and in plants and microbes (BIO1004; BIO1003). An introduction to the variety and evolutionary relationships of animals (*A2, A3*) is provided in module BIO01002. One optional module (10 credits) offers students a chance to extend Zoological knowledge (BIO1007), or (*A5*) to explore a related discipline (PSY1006 or ACE1022). 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, numerical and other skills (*A6; B1,2,4; C1,2,4; D 1,2,3*) are developed and enhanced in a specifically designed module, Biology in Action (BIO1010). This module includes regular tutorials with the student's personal tutor.

Stage 2

At Stage 2, both the depth and breadth of zoological knowledge (*A1-5*) are increased to provide a wide-ranging introduction to Zoology. Some modules are based on taxonomic groups (eg: vertebrates in BIO2007; insects in BIO2006 and UK vertebrates in the optional module BIO2026), and contribute particularly to knowledge of the diversity of animals (*A2*). A practical introduction to animal identification (*A1; A2; B2; C2*) is provided by the Field Identification skills module (BIO2003). Other modules deal with topics about physiology, behaviour and development of animals (*A3*), including a comparative perspective (eg: BIO2014; BIO2013; BIO2022). Further modules cover animal ecology, evolution, and diversity & conservation (BIO2009; BIO2008; BIO2002). Subject-specific skills (*C2 - 5*) are developed by practical classes in many modules (eg. BIO2006; BIO2013; BIO1014), and work in practical classes plays a significant role in promoting both independent and collaborative endeavour (*D3, D4*) and problem solving (*D5*). One module (BIO2020) is specifically for teaching statistical methods (*especially B4;* also relevant to *A6; B3*). Twenty credits are taken as options; students can take modules providing specific zoological knowledge (*A1; A2* in particular*)*which can include UK vertebrates, marine vertebrates, animal parasites or zoo animals (BIO2025; BIO2026; ACE2031; ACE2057). Other options provide specific knowledge of Psychology (*A5* through PSY2007), or else experience working during a short placement for a commercial or other local organisation in a science environment (relevant to *A7; C5; D5; D5;* in module BIO2021).

Stage 3

At Stage 3, knowledge and understanding (*A1, A3 and A4*) are particularly developed by compulsory lecture-based modules, all of which refer to primary research literature. These exemplify the programme's emphasis on two significant areas of modern Zoology: Conservation Biology (Modules BIO3012 and BIO3015) and Animal Behaviour (Modules BIO3014 and BIO3016). Knowledge in particular areas can be developed in optional lecture-based modules (ecophysiology, BIO3001); Ecology (BIO3002); plant-animal interactions (BIO3016); insect pests (BIO3009) and domestic animal behaviour (ACE3049). All Zoology students take BIO3037, which particularly enhances intellectual (*B1*), practical (*C4*) and transferrable skills (*D1, 2, 3* and *6*) as well as increasing knowledge and understanding (*A6*; *D6*). Two optional modules each teach specific practical skills: module BIO3036 – *B2,3,4; C2; D2,3*) and module 3003 – A6; B4). The Project (BIO3194 or 5 or 6) further develops experience in accessing sources of zoological information (*C1*) and most cognitive (B*1, B3, B4)* and key skills (*D1-4, D6*). The Field Course and the each of the alternative project modules encourage an appreciation of: the scientific method (*A6*); all subject-specific skills (*C1-5*); and many cognitive (*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.

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

Zoology is the scientific study of animals, including how they behave, reproduce, evolve, and interact with other species and their environment.
Through lab-based teaching and fieldtrips, we equip students with key laboratory and field techniques required by professional biologists. They participate in field-courses in species identification and other aspects of zoology.
In the first year all our students study the same fundamental topics in biology, such as plant biology, microbiology and ecology. The first year is shared with other degrees in the School, providing all students with a thorough foundation in the essentials of the subject, and allowing for easy transfer before the second year should your interests change.
In later Stages, Zoology students study more specialised topics such as: behaviour and physiology; biodiversity and conservation; vertebrate biology; entomology .
The degree is designed to ensure that students gain practical experience. They take part in a number of field courses including a species identification field course (stage 2) and a week-long residential field course including project work (stage 3). Most stage 1 and 2 lecture-based ,modules include laboratory or field work. At stage 3, each student undertakes a project that counts a quarter of their work, and is of one of three kinds: research; biological information or review. The stage 3 current zoology module encourages students to reflect on what they have learned during their 3-year course, to think about the relevance of what they have learned to society in general.

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/programme/

13 Criteria for admission

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

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: *http://www.ncl.ac.uk/students/*

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

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 and help with academic writing is available from the Writing Development Centre (further information is available from the Robinson Library).

Academic and Pastoral support
Each undergraduate and taught postgraduate student will be assigned a personal tutor.*
A personal tutor is one part of a wider network of advice and guidance available to students to support their personal and general academic development. The module leader acts as the first point of contact for subject-specific academic advice. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Student-Staff Committee, and/or at the Board of Studies. Within the academic unit, students may also receive additional academic and pastoral advice from a range of other student-facing staff including degree programme directors, dissertation/project supervisors, and administrative support staff.
*Arrangements may vary for students taking special types of provision.

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

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

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

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

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

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

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

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

Student evaluations
All modules and stages* are subject to review by student questionnaires. Informal student evaluation is also obtained at the Student-Staff Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking students' views on the quality of the learning and teaching. The results from student surveys are considered as part of the Annual Monitoring and Review of the programme and any arising actions are captured at programme and School / institutional level and reported to the appropriate body.
*With the exception of intercalating years and the final stages of undergraduate programmes.

Mechanisms for gaining student feedback
Feedback is channelled via the Student-Staff Committee and the Board of Studies.

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

Accreditation reports

Additional mechanisms

16 Regulation of assessment

Pass mark
The pass mark is 40 (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: http://www.ncl.ac.uk/undergraduate/

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

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

The Degree Programme Handbook:

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

Programme Specification Annex for C300 Zoology 2014-15.

Mapping of Intended Learning Outcomes onto Modules in the Curriculum.

Code	Type	A	B	C	D
Stage 1					
ACE1013	**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**	**1**	**1**	**3,4**	**1-4**
BIO1007	*Optional*	*1,2,3*		*2*	
PSY1006	*Optional*	*5*		*2*	
ACE1022	*Optional*	*3,4*		*2*	
Stage 2					
BIO2002	**Compulsory**	**4,7**			
BIO2003	**Compulsory**	**2**		**2**	
BIO2006	**Compulsory**	**1,2**			
BIO2007	**Compulsory**	**2**			
BIO2008	**Compulsory**	**2**	**3**		
BIO2009	**Compulsory**	**4**			
BIO2013	**Compulsory**	**3**	**2**	**2,3**	
BIO2014	**Compulsory**	**3**	**2**	**2,3**	
BIO2020	**Compulsory**				
BIO2022	**Compulsory**	**1**	*2*	*2,3*	
ACE2031	*Optional*	*2,3*	*2*	*2,3,4*	
ACE2057	*Optional*	*5,7*			*6*
BIO2021	*Optional*	*7*			*3-6*
BIO2025	*Optional*	*1,2,4*		*4*	*2*
BIO2026	*Optional*	*1,2,3*	*2*	*2,3*	
PSY2007	*Optional*	*5*			
Stage 3					
BIO3012	**Compulsory**	**4,7**			
BIO3014	**Compulsory**	**1,2**			
BIO3016	**Compulsory**	**1,3**			
BIO3022	**Compulsory**	**6**	**2,3,5**	**2,3,4**	**3,5**
BIO3035	**Compulsory**	**4,7**			
BIO3037	**Compulsory**	**7**	**1**	**1,3,4**	**1,2,3,6**
BIO3194	**Compulsory****		**1,2,3,4,5**	**1,2,3,4**	**2,3,4,5**
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			
BIO3001	*Optional*	*3*			
BIO3002	*Optional*	*1,4*			
BIO3003	*Optional*	*1,4*	*3*		*1,2,4*
BIO3006	*Optional*	*1, 4, 5*			
BIO3009	*Optional*	*1,5*			
BIO3036	*Optional*		*2,3,4*	*2*	

Notes:

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