

BSc Zoology
For students entering Part 1 in 2008/9

UCAS code: C300

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	Biosciences
Faculty:	Life Sciences Faculty
Programme length:	3 years
Date of specification:	16/Aug/2010
Programme Director:	Dr Gail Hutchinson
Programme Advisor:	Dr Amanda Callaghan
Board of Studies:	Biological Sciences
Accreditation:	None

Summary of programme aims

The programme aims to provide students with the opportunity to study animal life in all its diversity, at scales that range from the subcellular to that of the ecosystem, and to provide them with a suitable foundation for careers in for example research, teaching, the biological control of pests or the conservation of endangered species in the wild. It emphasises a mix of modern molecular laboratory expertise, practical field skills and traditional taxonomy.

Part 1 imparts an understanding of the basic concepts of modern zoological science, and Part 2 deepens this understanding of zoological concepts and develops a range of expertise over the main areas of the subject. Part 3 aims to study selected subjects in depth, and students will be equipped to tackle detailed problem-solving and analytical tasks associated with pure and applied zoological questions, in areas that include evolution, ecology and conservation. They should also have an overview of animal biodiversity and be able to identify major animal taxa.

During these studies students will be exposed to a variety of information sources and techniques and be trained in various skills including those used in reasoning, argument and communication. Several transferable skills will be acquired including the ability to design and execute experiments in the laboratory and in the field (including working in a team), access information, interpret data using statistics and computing, write essays, scientific papers and reports, and give oral and poster presentations.

Transferable skills

During the course of their studies at Reading, all students will be expected to enhance their academic and personal transferable skills in line with the University's Strategy for Learning and Teaching. In following this programme, students will have had the opportunity to develop such skills, in particular relating to to career management, communication (both written and oral), information handling, numeracy, problem-solving, team working in the laboratory and in the field, and use of information technology and will have been encouraged to further develop and enhance the full set of skills through a variety of opportunities available outside their curriculum.

Students will also gain experience in the methodology of research and scholarship.

Programme content

The profile which follows states which modules must be taken (the compulsory part), together with recommended modules (Part 1 only), and optional modules thought to be most appropriate for zoologists. Students must choose modules offered by the School of Biological Sciences, or other University of Reading Schools and Departments, subject to the agreement of the Programme Adviser, to a total of 120 credits in each Part.

Part 1 (three terms)

Compulsory modules

<i>Module</i>	<i>Title</i>	<i>Credits</i>	<i>Level</i>
AP1A10	Countryside and the Environment	10	C
BI1BA1	The Living Cell	10	C
BI1BC2	Genes and Chromosomes	10	C
BI1EC12	Exploiters and Exploited	20	C

BI1ED2	Mammals: diversity, behaviour & conservation	10	C
BI1EF23	Ecology: species and their interactions	20	C
PM1PB2A	Human Physiology	10	C

p>Students without AS or A2 level Chemistry, or an equivalent qualification, are **required** to take:

CH1FC1	Fundamental Concepts in Chemistry	10	C
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Optional modules To achieve a total of 120 credits, students will choose further modules, subject to approval by the Programme Adviser. Suggestions include:

AM1P11	Introductory Microbiology	10	C
AP1A18	Digestion and Nutrition	10	C
BI1BB2	Biochemistry and Metabolism	10	C
BI1EA1	Introduction to Enterprise and Marketing	10	C
BI1EG1	Plant Diversity, Structure and Utilisation	10	C
BI1EH1	Principles of Horticulture	10	C
LA1XX	Institution-Wide Language Programme	20	C
PM1PB2	Human Physiology (would replace PM1PB2A)	20	C
PM1PB2A	Human Physiology	10	C

Part 2 (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
AS2A1	Statistics for Life Sciences	10	I
BI2BM5	Science Communication	10	I
BI2BN5	Vertebrate Zoology	10	I
BI2EE4	Evolutionary Biology	10	I
BI2EI4	Invertebrate Zoology	10	I
BI2EN5	Animal Behaviour	10	I
BI2EY5	Birds: Diversity, Behaviour and Conservation	10	I
BI2EX5	Introduction to Entomology	10	I

Also, students are required to take one field course - EITHER

BI2EV3P	Part 2 Zoology Field Course	10	I
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OR

BI2EA3	Tropical Biology Field Course	10	I
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Optional modules (30 credits). Further modules, to a total of 120 credits will be selected, subject to approval by the Programme Adviser.

Recommended modules: The modules listed immediately below are strongly recommended

BI2BD4	Life and Death of a Cell	10	I
BI2BG5	Animal, Plant and Microbial Development	10	I
BI2BK5	Molecular Biology of the Gene: Expression, Function and Analysis	10	I

Other Options:

AS2H1	Genetic Data Analysis	10	I
BI2BB4	Endocrinology	10	I
BI2BI5	Immunology	10	I

BI2BP6	Practical Skills: Recombinant DNA Exercise	10	I
BI2EF6	Habitat Management	10	I
BI2EH4	Introduction to History and Philosophy of Science	10	I

Part 3 (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
BI3PRO	Research Project	40	H
BI3EV78	Animal Diversity	20	H

Optional modules (60 credits) Students must select a minimum of 30 credits from the list below:

BI3EB7	Forensic Zoology	10	H
BI3EG7	Evolutionary Genetics and Phylogeny	10	H
BI3EI8	Research Topics in Ecology	10	H
BI3EJ8	Conservation Biology	10	H
BI3EK7	Behavioural Ecology and Life History Theory	10	H

Other Options: Further modules, to create a total of 120 credits, must be selected from the list below.

AP3A67	Animal Welfare	10	H
AP3A68	Wildlife in a Farming Environment	10	H
AP3A76	Principles and Practice in Biological Control	10	H
AP3A91**	Captive Animal Management	10	H
BI3BE8	Cardiovascular Disease	10	H
BI3BH8	Mammalian Reproduction	10	H
BI3BI8	Neurobiology	10	H
BI3BJ8	Viral Pathogens	10	H
BI3EF8	Biodiversity Informatics	10	H
BI3EL7	Plants and Climate	10	H

**Places are restricted on AP3A91 and need to be booked in Term 5.

Progression requirements

To gain a threshold performance at Part 1 a student shall normally be required to achieve an overall average of 40% over 120 credits taken at Part 1 and a mark of at least 30% in individual modules amounting to not less than 100 credits. **In order to progress from Part 1 to Part 2** a student shall normally be required to achieve a threshold performance at Part 1.

To gain a threshold performance at Part 2 a student shall normally be required to achieve an overall average of 40% over 120 credits taken at Part 2 and a mark of at least 30% in individual modules amounting to not less than 100 credits. **In order to progress from Part 2 to Part 3** a student shall normally be required to achieve a threshold performance at Part 2.

Degree classification will normally be based on the marks for Part 2 and Part 3 modules, weighted in a ratio of 1:2. Full details of classification conventions (that is, the rules for determining your final degree award) can be found in the Undergraduate Handbook.

Summary of teaching and assessment

Teaching is organised in modules that typically involve both lectures and practical classes and student-led seminars. The assessments are carried out within the University's degree classification scheme, details of which are in the programme handbooks. The pass mark in each module is 40%.

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Admission requirements

Entrants to this programme are normally required to have obtained:

UCAS Tariff: 300 points from no more than 4 subjects at A level, including grade B in A level Biology and one other Science A level (Chemistry preferred) at grade C. Total points exclude Key Skills and General Studies. **GCSEs:** grade C required in Mathematics, English and Science.

International Baccalaureate: Pass Diploma and achieve 6,6,5 in 3 higher level subjects, including Biology and another Science.

Applicants with other types of qualifications and mature students are also encouraged to apply

Admissions Tutor: Dr Mark Fellowes

Support for students and their learning

University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers, and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@il) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, School Senior Tutors, the Students' Union, the Medical Practice and the Student Services Directorate. The Student Services Directorate is housed in the Carrington Building and includes the Careers Advisory Service, the Disability Advisory Service, Accommodation Advisory Team, Student Financial Support, Counselling and Study Advisors. Student Services has a Helpdesk available for enquiries made in person or online (www.risisweb.reading.ac.uk), or by calling the central enquiry number on (0118) 378 5555. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions on everything from accommodation to finance. The Carrington Building is open between 8:30 and 17:30 Monday to Thursday (17:00 Friday and during vacation periods). Further information can be found in the Student website (www.reading.ac.uk/student).

The Programme Adviser is available to offer advice on the choice of modules within the degree course.

Career prospects

After graduation, students will be qualified to undertake a zoological career in a range of areas, or to use skills and problem-solving abilities in careers not directly related to zoology. Honours graduates will be eligible for graduate membership of the Institute of Biology, which could lead to Chartered Biologist status.

Opportunities for study abroad or for placements

Industrial Placement:

Students who are interested in a scientific career, whether in industry, research or some other related field can apply for a year's placement between Parts 2 and 3. Students who wish to apply would normally be expected to have a weighted average of at least 60% in Part 1.

Study Abroad:

The Erasmus programme (within Socrates) enables undergraduates to undertake project work for one term in their final year at one of a number of European Universities. Recent exchanges involving School of Biological Science students have taken place with the following: University of Tours, France; Odense University, Denmark; Uppsala University, Sweden; University College Cork, Ireland; University of Zaragoza, Spain; ENSA, Montpellier, France; University of Cagliari, Sardinia. Students also have the opportunity to go to Rostock University, Germany and Siena University, Italy.

Programme Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and Understanding

A. Knowledge and understanding of:

Teaching/learning methods and strategies

1. The fundamental concepts of zoology
2. The higher-level taxonomy and diversity of animal life.
3. How zoological principles can be applied to problems in conservation and applied biology.
4. Statistics as applied to biological data.
5. A selection of more specialised optional topics.
6. Practical skills in ecology and natural history.

Formal lectures and practicals supported by tutorials (Part 1), group work and mini-projects. Both laboratory and field work/ecology exercises (including residential field courses), the latter dealing with ecosystems found both in SE England, elsewhere in the UK/Europe, and the tropics.

Assessment

Most knowledge is tested through a combination of coursework and unseen formal examinations. Dissertations, oral and poster presentations also contribute.

Skills and other attributes

B. Intellectual skills - able to:

1. Think logically.
2. Analyse and solve qualitative and quantitative problems.
3. Organise tasks in structured form.
4. Transfer appropriate knowledge and methods from one topic to another (both previously experienced and novel) within the overall subject area.
5. Plan and conduct an independent project and then to write a report.

Teaching/learning methods and strategies

Rational thought and logical analysis are embedded throughout the program, where solutions to problems in zoology have come about through the application of appropriate experiments. Research project in Part 3.

Assessment

Embedded throughout the assessment protocols.

C. Practical skills - able to:

1. Carry out practical work with minimal risk, both to self and to others.
2. Undertake laboratory tasks and techniques.
3. Undertake fieldwork tasks and techniques.
4. Plan experiments and carry them out.
5. Analyse data using appropriate statistical methods, including by computer (e.g. MINITAB)

Teaching/learning methods and strategies

Formal practical classes, both in the laboratory and the field. Mini-projects during field courses. The design, conduct and completion of a research project. Statistical analysis of data is incorporated into appropriate practical classes and is also required for projects.

Assessment

By practical laboratory and fieldwork reports and by project reports.

D. Transferable skills - able to:

1. Use IT.
2. Communicate scientific ideas by a variety of methods and to a variety of target audiences.
3. Give oral and poster presentations.
4. Work as part of a team.
5. Use library resources both paper and electronic.
6. Manage time.
7. Plan a career.

Teaching/learning methods and strategies

The use of IT and other skills is a major element of some modules. The use of all skills is embedded throughout the course. The research project is likely to require application of all skills.

Assessment

The skills will enhance to performance of students both in coursework and unseen examinations, including in integrating papers.

Please note - This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and

feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.