BSc Applied Ecology and Conservation   **UCAS code:**
For students entering Part 1 in 2012/3

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:	25/Jul/2014
Programme Director:	Dr Demetris Savva
Programme Advisor:	Dr Graham Holloway
Board of Studies:	Biological Sciences
Accreditation:	None

Summary of programme aims

The programme in Applied Ecology and Conservation aims to provide students with the opportunity to study ecological principles, and to see how these may be applied to problems in pest management and conservation biology. Part 1 aims to impart an understanding of the basic concepts of modern applied ecological sciences. Part 2 deepens this understanding of ecological concepts and develops a range of expertise over the main areas of the subject. Part 3 aims to study selected subjects in depth and to equip students to tackle detailed problem-solving and analytical tasks associated with applied ecological questions, primarily in pest management and conservation.

During their 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 following this programme, students will have had the opportunity to develop such skills, in particular relating 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 applied ecologists. 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

Also, students without AS or A2 level Chemistry or an equivalent qualification are recommended to take:

CH1FC1	Fundamental Chemistry 1	10	4

Optional modules (20/30 credits)
Students will choose further modules, to achieve a total of 120 credits, from the list of recommendations below. *Subject to agreement from the Programme Adviser, alternative modules may be chosen from the Schools of Biological Sciences and Agriculture, Policy and Development or, exceptionally, from other Schools. Timetable restrictions may apply.*

AP1A10	Countryside and the Environment	10	4
BI1BA1	The Living Cell	10	4

Code	Module title	Credits	Level
BI1EZ1	Introduction to Zoology	10	4
GV1B1	Introduction to Environmental Sciences	10	4
GV1F2	Biogeography and Soils	10	4
GV1E1	Soils in the Environment	10	4

Part 2 (three terms)
Compulsory modules

Code	Module title	Credits	Level
AP2A57	Methods in Ecology and Environmental Management	20	5
ST2S2	Applied Statistics for the Life Sciences	10	5
BI2EE4	Evolutionary Biology	10	5
BI2EX5	Introduction to Entomology	10	5
BI2BM34	Professional Career Development	10	5

Also students are required to take one of the following field courses:

Either			
BI2EAB3	Tropical Biology Field Course	20	5
or			
BI2EWEV	Biodiversity Field Course	10	5

Optional modules (40 or 50 credits)
To achieve a total of 120 credits, students will choose further modules, subject to approval by the Programme Adviser. Suggestions include the modules listed below. *Subject to agreement from the Programme Adviser, alternative modules may be chosen from the Schools of Biological Sciences and Agriculture, Policy and Development or, exceptionally, from other Schools. Timetable restrictions may apply.*

Code	Module title	Credits	Level
AP2A26	Forestry and Woodlands	10	5
AP2A56	Grassland Management and Ecology	10	5
AP2A58*	Environmental Science and Management Field Course	10	5
AP2A59	Nature Conservation	10	5
BI2BN4	Vertebrate Zoology - Structure Form and Function	10	5
BI2BS5	Vertebrate Zoology - Structure Form and Function (2)	10	5
BI2BT5	Introduction to Bioinformatics and Computational Biology	10	5
BI2BU45	Science Communication	10	5
BI2EH4	Introduction to History and Philosophy of Science	10	5
BI2EI4	Invertebrate Zoology	10	5
BI2EN5	Animal Behaviour	10	5
BI2EY5	Birds: Diversity, Behaviour and Conservation	10	5
GV2D5	Sustainable Resource Management	10	5
GV2F4	Soil Ecology and Function	10	5

*NB. Takes place after Part 1 exams. Registration Spring Term, Part 1

Part 3 (three terms)
Compulsory modules

Code	Module title	Credits	Level
BI3EJ8	Conservation Biology	10	6
AP3AE75	Wildlife and Farming	10	6
BI3PRO	Project	40	6

Optional modules (60 credits)

Students will choose further modules, to achieve a total of 120 credits, from the list of recommendations below. *At least 20 credits must be from Biological Sciences (modules coded BI****) and at least 20 from Agriculture, Policy and Development (modules coded AP****). Subject to agreement from the Programme Advisor, alternative modules may be chosen from other Schools. Timetable restrictions may apply.*

AP3A76	Principles and Practice in Biological Control	10	6
AP3A95*	Practical Wildlife Reserve Management	10	6
AP3EP3	Rural Policy and Countryside Planning	10	6
BI3BP7	Systems Biology	10	6
BI3S78	Seminars in Biology	10	6
BI3EB7	Forensic Zoology	10	6
BI3EF7	Urban Ecology	10	6
BI3BAA7	Insect Ecology and its Application	10	6
BI3EAB8	Palaeozoology	10	6
BI3EI8	Research Topics in Ecology	10	6
BI3EK7	Behavioural Ecology and Life History Theory	10	6
BI3EM7	Plants , Animals and Climate Change	10	6
BI3EN7	Conservation and Biodiversity	10	6
BI3EO8	Science in Culture	10	6
GV3RSD	Resilience for Sustainable Development	20	6
GV342	Environmental Modelling	20	6
GV362	Water Resources	20	6

*Takes place summer vacation after Part 2 exams. Registration Spring Term, Part 2

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
marks of at least 40% in modules amounting to not less than 80 credits; and
marks of at least 30% in modules amounting to not less than 120 credits

Part 2 contributes one third of the overall assessment and Part 3 the remaining two thirds. In order to be eligible for Honours, students must gain an overall weighted average mark of 40%, at least 40% in modules amounting to 80 credits in Part 3, and must gain a mark of at least 40% in the Research Project module. For a Pass degree, candidates must have an average of at least 35% and at least 35% in modules amounting to 80 credits in Part 3, and must gain a mark of at least 35% in the Research Project module.

Assessment and classification
The University's honours classification scheme is:

Mark	*Interpretation*
70% - 100%	First class
60% - 69%	Upper Second class
50% - 59%	Lower Second class
40% - 49%	Third class
35% - 39%	Below Honours Standard
0% - 34%	Fail

For the University-wide framework for classification, which includes details of the classification method, please see: www.reading.ac.uk/internal/exams/Policies/exa-class.aspx

The weighting of the Parts/Years in the calculation of the degree classification is

Three-year programmes
Part 2 one-third
Part 3 two-thirds

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%.

Admission requirements
Entrants to this programme are normally required to have obtained:
UCAS Tariff: 320 points from no more than 4 subjects at A level, including grade B in A level Biology.; An additional A level, in a Science subject or Geography is preferred. 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 Graham Holloway

Support for students and their learning
University support for students and their learning falls into two categories. Learning support is provided by a wide array of services across the University, including: the University Library, the Careers, Placement and Experience Centre (CPEC), In-sessional English Support Programme, the Study Advice and Mathematics Support Centre teams, IT Services and 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 advisers in the Student Services Centre. The Student Services Centre is housed in the Carrington Building and offers advice on accommodation, careers, disability, finance, and wellbeing, academic issues (eg problems with module selection) and exam related queries. 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 and runs workshops and seminars on a range of topics. For more information see www.reading.ac.uk/student

The Programme Advisor 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 career in a range of areas, or to use skills and problem-solving abilities in careers not directly related to ecology or conservation. 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 may be able to 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.

Opportunities for study abroad
The Erasmus programme 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:

1. The fundamental concepts of ecology
2. The relationship between agriculture and pest management.
3. How ecological principles can be applied to conservation biology.
4. Statistics as applied to biological data.
5. A selection of more specialised optional topics.

Teaching/learning methods and strategies

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 possibly further afield.

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 applied problems in whole-organism biology have come about through the application of ecological 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 the 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.