

PROGRAMME SPECIFICATION

This document describes the **Honours Degree programme in Ecology and Conservation**. This specification is valid for new entrants from **September 2018**.

The aims of the Honours Degree programme in Ecology and Conservation are to:

- provide sound knowledge and understanding of the organismal and environmental principles of the subject through a core set of course units, and develop an insight into the current frontiers of knowledge, primarily through a series of specialised Stage 3 course units many of which focus on ecology and conservation ;
- develop, through a flexible and progressive structure, a range of subject-specific and transferable skills, including practical laboratory skills, fieldwork skills, self-management, information retrieval, communication and presentation skills, working with others, decision making and meeting deadlines, that equip students for future employment;
- provide experience of independent research through a final year project that focuses on ecology and conservation;
- produce graduates who can work safely and responsibly with biological materials, laboratory equipment and in the field.

The programme is delivered in three stages, each of which comprises one year of full-time study, or two years of part-time study, during which the student must follow course units to the value of 120 national credits. The curriculum is based around a core of mandatory course units running through all three stages providing a broad base of biology and ecology in Stage one, essential training in systematic and quantitative biology and ecological studies in Stage two and a study of biodiversity and ecosystems and an individual project in the final stage.

Stage one comprises a fixed set of mandatory course units and seeks to provide the necessary grounding for the study of the subject at degree level. These course units introduces the major themes of the degree, with courses in Ecology and Conservation, Biology in a Changing World, Vertebrate Evolution and Diversity, Biomes and Ecosystems, Green World: Plant Evolution, Form and Function, Cell Biology and Genetics. In **Stage two** students take a total of 6 mandatory course units to the value of 90 credits and choose 2 course units from the options available. These take the students beyond the basic foundations laid in stage one and the choices available enable students to specialise. The mandatory courses include Invertebrate Biology, Plant Life, and Evolution, as well as a solid statistical grounding with Biological Data Analysis and Interpretation. Options include Animal Behaviour, Applications of Molecular Genetics in Biology and Microbiology. Practical Field Ecology is a mandatory field course for this degree, and the residential field course in Marine Biology, held in the Millport Marine Biology Centre in Scotland, provides another option. **Stage three** allows for increasing specialisation as students take 4 mandatory course units to the value of 75 credits and choose 3 further 15-credit course units from the options available. Most of these course units closely reflect the research interests of members of staff who are all specialists in their fields. The mandatory course units include Conservation Biology, Climate Change: Plants and the Environment, and Population and Community Ecology. The course units available as options include Marine Ecology and Biodiversity, Entomology, Evolutionary Ecology, Circadian Biology, Behavioural Ecology and the overseas field course that looks at Mediterranean Conservation and Ecology. Students complete an individual research project providing training in a specialised research area and also in generic skills such as literature searching, report writing, use of word processing, graphics and statistics and in independent work.

The programme provides coverage across a range of modern ecology topics, and involves training in a variety of practical techniques and skills relevant to research in the biological sciences. The system is also flexible and allows the students to transfer to other degree streams within the School up to the start of the second term, or indeed to the Biology degree up to the start of the second year. Students can also take up to 30 credits outside of the School

of Biological Sciences, but within the Faculty of Science, during their stage two/three. Options are selected in consultation with the student's Personal Tutor and the Director of Teaching.

Further information

[Learning outcomes](#)

[Teaching, learning and assessment](#)

[Details of the programme structure\(s\)](#)

[Progression and award requirements](#)

[Student support and guidance](#)

[Admission requirements](#)

[Further learning and career opportunities](#)

[Indicators of quality and standards](#)

[List of programmes, with details of awards, degree titles, accreditation and teaching arrangements](#)

This document provides a summary of the main features of the programme(s), and of the outcomes which a student might reasonably be expected to achieve if full advantage is taken of the learning opportunities provided. Further information is contained in the College prospectus, the College Regulations and in various handbooks issued to students upon arrival. Whilst Royal Holloway keeps all its information for prospective applicants and students under review, programmes and the availability of individual course units are necessarily subject to change at any time, and prospective applicants are therefore advised to seek confirmation of any factors which might affect their decision to follow a specific programme. In turn, Royal Holloway will inform applicants and students as soon as is practicable of any substantial changes which might affect their studies.

Learning outcomes

Teaching and learning in the programme are closely informed by current developments (including practical aspects) in the subject and by the active research of staff, particularly in the areas of conservation biology, animal behaviour, biodiversity, ecology and the environment and evolution. In general terms the programme provides a variety of opportunities for students to develop and demonstrate these learning outcomes:

Knowledge and understanding

- a critical understanding of the diversity and complexity of life and life processes;
- a familiarity with terminology, nomenclature and classification systems;
- a knowledge of the cellular basis of life processes;
- a critical understanding of ecological systems and of the interrelationships between organisms and the environment they live in focussing on population processes, dynamics and interactions; community structure development and biodiversity; ecological methodologies and data analyses; the impact of different approaches to species management and conservation; nutrient and energy flow through populations and communities;
- a critical understanding of genetics and of the evolutionary processes that give rise to the diversity and complexity of life;
- understanding cutting edge developments in a range of areas specific to the subject;
- knowledge and engagement with philosophical and ethical issues arising from some of the current developments in the biosciences;
- well-developed strategies for updating, maintaining and enhancing their knowledge of the Biosciences.

Skills and other attributes

- the ability to employ and evaluate suitable experimental methods (both laboratory and fieldwork based) for the investigation of relevant areas of ecology;
- a range of laboratory and fieldwork techniques of key importance in ecology;
- working safely in a scientific laboratory and in the field, with awareness of standard safety protocols;
- the ability to apply relevant numerical skills, including statistics to biological data;
- the ability to access bioscience information from a wide range of sources in order to maintain and enhance knowledge of the Biosciences and to communicate that information clearly in oral and written forms;
- assessing the merits of contrasting subject-specific theories, paradigms, concepts and principles;

- critically interpreting and evaluating experimental data and relevant literature, analysing and solving problems, and decision-making;*
- applying subject-specific knowledge and understanding to address familiar and unfamiliar problems;
- the ability to plan, design and execute an independent piece of research through a theoretical or practical project in ecology, including the production of the final report;
- taking personal responsibility for learning, and developing habits of reflection on that learning;*
- identifying, retrieving (including the use of online computer searches), sorting and exchanging information;*
- abstracting and synthesising information, and developing a reasoned argument;*
- written communication and verbal presentation;*
- information technology (including spreadsheets, databases, word processing, email and WWW);*
- interpersonal skills, including working in groups/teams and recognising and respecting the viewpoints of others;*
- CV and career preparation.*

* transferable skills

[Back to top](#)

Teaching, learning and assessment

The overall strategy is to provide a progressive approach to biological concepts and systems of increasing complexity through teaching methods that aid learning and stimulate interest. Teaching is mostly by means of lectures, laboratory and fieldwork classes, seminars, tutorials, study/revision sessions, with knowledge and understanding further developed by guided independent study. Learning and analytical ability are developed and reinforced through problem solving, essay writing, practical classes (both laboratory and fieldwork), critical evaluation and by giving students the opportunity to design, execute and evaluate their own experiments. Students are encouraged to acquire further knowledge beyond taught material, e.g. by reading topical reviews, original research literature and attending research seminars, especially in the final year.

The practical assignments associated with stage one and stage two course units provide training in a range of subject specific laboratory techniques, including safety assessment. The culmination of these skills is demonstrated in the stage three research project, and for literature skills the preparation of a literature report. Training in intellectual and key transferable skills is embodied throughout the programme and forms a strong element of the tutorial and study session programmes. All students are required to meet basic standards in information technology.

Assessment of knowledge and understanding is typically by formal written examinations, practical exams, and a range of coursework, including practical assignments (both laboratory and fieldwork based), poster preparation, oral presentations, essays and the individual research project.

[Back to top](#)

Details of the programme structure(s)

Please note that the list of available course units offered is subject to change and not all course units run each year. A full list of course units for the current academic year can be obtained from the [School](#).

Stage one:

Full-time students must take the following **mandatory** course units:

BS1021 Becoming a Bioscientist (15 credits; condonable)

BS1041 Biology in a Changing World (15 credits; condonable)

BS1042 Vertebrate Evolution and Diversity (15 credits; condonable)

BS1043 Green World: Plant Evolution, Form and Function (15 credits; condonable)

BS1051 Ecology and Conservation (15 credits; condonable)

BS1052 Biomes and Ecosystems (15 credits; condonable)
BS1071 Cell Biology and Evolution (15 credits; condonable)
BS1072 Genetics (15 credits; condonable)

Part-time students must take the following **mandatory** course units:

Stage one (a):

BS1021 Becoming a Bioscientist (15 credits; condonable)
BS1041 Biology in a Changing World (15 credits; condonable)
BS1042 Vertebrate Evolution and Diversity (15 credits; condonable)
BS1071 Cell Biology and Evolution (15 credits; condonable)

Stage one (b):

BS1043 Green World: Plant Evolution, Form and Function (15 credits; condonable)
BS1051 Ecology and Conservation (15 credits; condonable)
BS1052 Biomes and Ecosystems (15 credits; condonable)
BS1072 Genetics (15 credits; condonable)

Stage two:

Full-time students must take the following **mandatory** course units:

BS2010 Invertebrate Biology: Structure, Behaviour and Evolution (15 credits; condonable)
BS2020 Plant Life: From Genes to Environment (15 credits; condonable)
BS2090 Insects, Plants and Fungi: Ecology and Applications (15 credits; condonable)
BS2110 Practical Field Ecology (15 credits; condonable)
BS2120 Biological Data Analysis and Interpretation (15 credits; condonable)
BS2160 Evolution (15 credits; condonable)

and two optional course units (30 credits) from the following:

BS2005 Microbiology (15 credits)
BS2140 Animal Behaviour (15 credits)
BS2150 Applications of Molecular Genetics in Biology (15 credits)
BS2001X Marine Biology (15 credits)

Part-time students must take:

Stage two (a)

BS2010 Invertebrate Biology: Structure, Behaviour and Evolution (15 credits; condonable)
BS2110 Practical Field Ecology (15 credits; condonable)
BS2120 Biological Data Analysis and Interpretation (15 credits; condonable)
BS2160 Evolution (15 credits; condonable)

Stage two (b)

BS2020 Plant life: from Genes to Environment (15 credits; condonable)
BS2090 Insects, Plants and Fungi: Ecology and Applications (15 credits; condonable)
and choose options equal to the value of 30 credits from the stage two course units listed above.

Stage three:

Students must take the following **mandatory** course units:

BS3010 Individual Research Project (30 credits) (Non-condonable fail – must be passed in qualify for the field of study)
BS3060 Conservation Biology (15 credits; condonable)
BS3120 Population and Community Ecology (15 credits; condonable)
BS3190 Climate Change: Plants and the Environment (15 credits; condonable)

and choose three optional course units (45 credits) from the following:

BS3020 Special Study: Dissertation (15 credits)

BS3030 Biology of Parasitic Diseases (15 credits)
BS3090 Entomology: Pure and Applied (15 credits)
BS3110 Mediterranean Conservation and Ecology Field Course (15 credits)
BS3160 Behavioural Ecology (15 credits)
BS3180 Marine Ecology and Biodiversity (15 credits)
BS3210 Evolutionary Ecology of Vertebrates (15 credits)
BS3220 Extreme Animal Physiology (15 credits)
BS3230 Circadian Biology (15 credits)
BS3520 Seed Biology: From Molecular and Conservation Biology to Industrial Applications (15 credits)

Part-time students must take:

Stage three (a)

BS3010 Individual Research Project (30 credits) (Non-condonable fail – must be passed in order to qualify for the field of study).

BS3120 Population and Community Ecology (15 credits; condonable)

BS3060 Conservation Biology (15 credits; condonable)

Stage three (b)

BS3190 Climate Change: Plants and the Environment (15 credits; condonable)

and choose optional course units equal to the value of 45 credits from the stage three course units listed above.

[Back to top](#)

Progression and award requirements

Students are considered for the award and classified on the basis of a weighted average. This is calculated from marks gained in course units taken in stages two and three, and gives twice the weighting to marks gained in stage three. The College's [Undergraduate Regulations](#) include full details on progression and award requirements for all undergraduate programmes offered by the College.

In order to qualify for the award of Ecology and Conservation degree, students must gain a weighted average of at least 35%, pass at least 90 credits in the final year, and take the mandatory course units specified above. The Individual Research Project (BS3010) is mandatory, non-condonable. Students must pass this course unit in order to qualify for an Honours Degree in Ecology and Conservation.

[Back to top](#)

Student support and guidance

- Personal Tutors: All students are allocated a Personal Tutor who meets with them regularly through the programme. The Personal Tutor's role is to advise on academic, pastoral and welfare issues, but with referral of students for professional help, e.g. counselling, if required. Students work closely with their Personal Tutor in tutorial groups of around 6 students, primarily throughout the teaching terms.
- The Director of Teaching and Academic Coordinators provide a back-up system of academic, pastoral and welfare advice.
- Provision of study skills sessions throughout the academic year focuses on enhancing generic study skills. The aim is to facilitate the transition of students to the University learning environment allowing them to perform to the best of their academic ability. Excellent associated online resources are also available through Moodle, the virtual learning environment, and on the Royal Holloway website.
- All staff are available and accessible through an open-door policy or by operating a defined office hours system, or by appointment.
- Student representation is included on the Staff-Student Committee and the School Teaching Committee.
- Detailed student handbook and module resources are provided.

- Extensive supporting materials and learning resources are available in the College libraries, the Computer Centre and via the School website and Moodle.
- Dedicated teaching laboratories are housed in the School of Biological Sciences (Bourne) Building.
- The School of Biological Sciences has a Disability and Dyslexia (DDS) network member.
- College Careers and Employability Service and School Careers Liaison Officer, supplemented by a dedicated careers area.
- Access to all College and University support services, including Student Counselling Service, Health Centre and the Disability and Dyslexia Service for students with disabilities and specific learning difficulties.

[Back to top](#)

Details of the Department's typical offer for each programme of study are available on the [Course Finder](#) web page. However, the Department also has flexibility in its admissions and offers policy and strongly encourages applications from non-standard applicants. Students whose first language is not English may also be asked for a qualification in English Language at an appropriate level. For further guidance it may also be helpful to contact the [Recruitment and Partnership Office](#).

[Back to top](#)

Further learning and career opportunities

Graduates from Biological Sciences degree programmes have successfully progressed into a wide range of professions, while many have continued onto Postgraduate studies. For further details please refer to the [Careers Service](#).

[Back to top](#)

Indicators of quality and standards

Royal Holloway's position as one of the UK's leading research-intensive institutions was confirmed by the results of the most recent Research Excellence Framework (REF 2014) conducted by the Higher Education Funding Council (HEFCE). The scoring system for the REF 2014 measures research quality in four categories, with the top score of 4* indicating quality that is world-leading and of the highest standards in terms of originality, significance and rigour and 3* indicating research that is internationally excellent. 81% of the College's research profile was deemed to be within the 4* or 3* categories, an increase of over 20% since 2008. This result placed Royal Holloway 31st overall in the UK for 4* and 3* research and 33rd based on an overall Grade Point Average (GPA) score.

The School of Biological Sciences is ranked 34th in the UK for research of 4* standard and 32nd for 3* and 4* research.

[Back to top](#)

List of programmes offered by the School of Biological Sciences

Programmes are taught almost entirely by staff at Royal Holloway University of London, with some third year course units including contributions from external lecturers who are experts in their subject area. All programmes lead to awards of the University of London. The QAA subject benchmark statement in Biosciences describes the general features which one might expect from Honours Degree programmes in the subject, and can therefore be used as a point of reference when reading this document (see www.qaa.ac.uk). UCAS codes are given in parentheses (see www.ucas.ac.uk).

Single Honours Degree programmes in Biological Sciences taught wholly within the School of Biological Sciences

BSc Ecology and Conservation (C150)

Available Full Time or Part Time

Accreditation

The Honours Degree programme in Ecology and Conservation is accredited by the Royal Society of Biology.

[Back to top](#)