Royal Holloway, University of London
Course specification for an undergraduate award
BSc Ecology and Conservation (C180)

Section 1 – Introduction to your course

This course specification is a formal document, which provides a summary of the main features of your course and the learning outcomes that you might reasonably be expected to achieve and demonstrate if you take full advantage of the learning opportunities that are provided. Further information is contained in the University prospectus, and in various handbooks, all of which you will be able to access online. Alternatively, further information on the University's academic regulations and policies can be found here. Further information on the University's Admissions Policy can be found here.

Your degree course in Ecology and Conservation is delivered in three stages, each of which comprises one year of full-time study, or two years of part-time study, during which you must follow modules to the value of 120 national credits. The curriculum is based around a core of mandatory modules 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 set of 7 mandatory modules and seeks to provide the necessary grounding for the study of the subject at degree level. These modules introduce the major themes of the degree, with modules in Ecology and Conservation, Vertebrate Evolution and Diversity, Biomes and Ecosystems, Green Planet: Plants and Our Future, Cell Biology and Genetics. One additional module is selected from either Biology in a Changing World or Chemistry of Life. In **Stage two** you take a total of 6 mandatory modules to the value of 90 credits and choose the remaining credits 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 modules include Invertebrate Biology, Food Security, Sustainability and Green Biotechnology, 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 modules to the value of 75 credits and choose further modules from the options available. Most of these modules closely reflect the research interests of members of staff who are all specialists in their fields. The mandatory modules include Conservation Biology, Climate Change: Plants and the Environment, and Population and Community Ecology. The modules available as options include Marine Ecology and Biodiversity, Entomology, Evolutionary Ecology, and Circadian Biology, as well as the overseas field courses of Conservation Ecology in the Field, and the Tropical Rainforest Expedition. 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 project is regarded as your graduate capstone experience, as it is the culmination of your training in experimental design, research techniques, data analysis and presentation.

The course 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 Department up to the start of the second term, or indeed to the Biology degree up to the start of the second year. You can also take up to 30 credits outside of the Department of Biological Sciences, but within other Science Departments during stage two/three. Options are selected in consultation with your Personal Tutor and the Director of Teaching.

While Royal Holloway keeps all the information made available under review, courses and the availability of individual modules, especially optional modules are necessarily subject to change at any time, and you are therefore advised to seek confirmation of any factors which might affect your decision to follow a specific course. In turn, Royal Holloway will inform you as soon as is practicable of any significant changes which might affect your studies.

The following is a brief description for some of the most important terminology for understanding the content of this document:

Degree course – May also be referred to as 'degree programme' or simply 'programme', these terms refer to the qualification you will be awarded upon successful completion of your studies.
Module – May also be referred to as 'course', this refers to the individual units you will study each year to complete your degree course. Undergraduate degrees at Royal Holloway comprise a combination of modules in multiples of 15 credits to the value of 120 credits per year. On some degree courses a certain number of optional modules must be passed for a particular degree title.

Section 2 – Course details			
Date of specification update	March 2024	**Location of study**	Egham Campus
Course award and title	BSc Ecology and Conservation	**Level of study**	Undergraduate
Course code	3140	**UCAS code**	C180
Year of entry	2025/26		
Awarding body	Royal Holloway, University of London		
Department or school	Department of Biological Sciences School of Life Sciences and the Environment	**Other departments or schools involved in teaching the course**	N/A
Mode(s) of attendance	Full-time or Part-time	**Duration of the course**	Three years or Six years
Accrediting Professional, Statutory or Regulatory Body requirement(s)	You must pass the BS3010 Individual Research Project in order to qualify for an Honours Degree in Ecology and Conservation; this is a requirement of the Royal Society of Biology for an accredited degree.		
Link to Coursefinder for further information:	https://www.royalholloway.ac.uk/studying-here/	**For queries on admissions:**	https://royalholloway.ac.uk/applicationquery

Section 3 – Degree course structure					
3.1 Mandatory module information **The following table summarises the mandatory modules which students must take in each year of study**					
Year	**Module code**	**Module title**	**Credits**	**FHEQ level**	**Module status (Mandatory Condonable MC or Mandatory Non-Condonable MNC**
1	BS1021	Becoming a Bioscientist	15	4	MC
1	BS1042	Vertebrate Evolution and Diversity	15	4	MC
1	BS1043	Green Planet: Plants and Our Future	15	4	MC
1	BS1051	Ecology and Conservation	15	4	MC
1	BS1052	Biomes and Ecosystems	15	4	MC
1	BS1071	Cell Biology and the Origin of Life	15	4	MC
1	BS1072	Genetics	15	4	MC
2	BS2010	Invertebrate Biology: Structure, Behaviour and Evolution	15	5	MC
2	BS2020	Food Security, Sustainability and Green Biotechnology	15	5	MC
2	BS2090	Plant Biotic Interactions and Ecological Networks	15	5	MC
2	BS2110	Practical Field Ecology	15	5	MC
2	BS2120	Biological Data Analysis and Interpretation	15	5	MC
2	BS2160	Evolution	15	5	MC
3	BS3010	Individual Research Project	30	6	MNC
3	BS3120	Population and Community Ecology	15	6	MC
3	BS3060	Conservation Science	15	6	MC

3	BS3190	Climate Change: Plants and the Environment	15	6	MC

This table sets out the most important information for the mandatory modules on your degree course. These modules are central to achieving your learning outcomes, so they are compulsory, and all students on your degree course will be required to take them. You will be automatically registered for these modules each year. Mandatory modules fall into two categories: 'condonable' or 'non-condonable'.

In the case of mandatory 'non-condonable' (MNC) modules, you must pass the module before you can proceed to the next year of your course, or to successfully graduate with a particular degree title. In the case of mandatory 'condonable' (MC) modules, these must be taken but you can still progress or graduate even if you do not pass them. Please note that although Royal Holloway will keep changes to a minimum, changes to your degree course may be made where reasonable and necessary due to unexpected events. For example: where requirements of relevant Professional, Statutory or Regulatory Bodies have changed and course requirements must change accordingly, or where changes are deemed necessary on the basis of student feedback and/or the advice of external advisors, to enhance academic provision.

3.2 Optional modules

In addition to mandatory modules, there will be a number of optional modules available during the course of your degree. Although Royal Holloway will keep changes to a minimum, new options may be offered or existing ones may be withdrawn. For example where reasonable and necessary due to unexpected events, where requirements of relevant Professional, Statutory or Regulatory Bodies (PSRBs) have changed and course requirements must change accordingly, or where changes are deemed necessary on the basis of student feedback and/or the advice of External Advisors, to enhance academic provision. There may be additional requirements around option selection; please contact the Department for further information.

In year 1 you must choose options to the value of 15 credits from the list of stage one modules offered by the Department
In year 2 you must choose options to the value of 30 credits from the list of stage two modules offered by the Department.
In year 3 you must choose options to the value of 45 credits from the list of stage three modules offered by the Department.

Section 4 - Progressing through each year of your degree course

For further information on the progression and award requirements for your degree, please refer to Royal Holloway's Academic Regulations.

Progression throughout the year/s is monitored through performance in summative or formative coursework assignments. Please note that if you hold a Student Visa and you choose to leave (or are required to leave because of non-progression) or complete early (before the course end date stated on your CAS), then this will be reported to UKVI.

All first year undergraduate students are required to take and pass the non-credit bearing Moodle-based Academic Integrity module SS1001 in order to progress into the second year of study (unless their course includes the alternative mandatory SS1000 module). The pass mark for the module assessment is stated in the on-line Academic Integrity Moodle module. Students may attempt the assessment as often as they wish with no penalties or capping. Students who meet the requirements for progression as stipulated in the Academic Taught Regulations but fail to pass the Moodle-based Academic Integrity module will not be permitted to progress into their second year of academic study.

Note for part-time study you will take:

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 the Origin of Life (15 credits; condonable)
Stage one (b):
BS1043 Green Planet: Plants and Our Future (15 credits; condonable)
BS1051 Ecology and Conservation (15 credits; condonable)
BS1052 Biomes and Ecosystems (15 credits; condonable)
BS1072 Genetics (15 credits; condonable)

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 Food Security, Sustainability and Green Biotechnology (15 credits; condonable)
BS2090 Plant Biotic Interactions and Ecological Networks (15 credits; condonable)
and choose 30 credits of options from the stage two modules listed above.

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 Science (15 credits; condonable)
Stage three (b)
BS3190 Climate Change: Plants and the Environment (15 credits; condonable)
and choose 45 credits from the stage three optional modules listed above.

Section 5 – Educational aims of the course

The aims of the Honours Degree course 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 modules, and develop an insight into the current frontiers of knowledge, primarily through a series of specialised Stage 3 modules 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 you 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.

Section 6 - Course learning outcomes **In general terms, the courses provide opportunities for students to develop and demonstrate the following learning outcomes. (*Categories – Knowledge and understanding (K), Skills and other attributes (S), and Transferable skills (*)*)**				
Theme	**Course learning outcome**	**Level 4**	**Level 5**	**Level 6**
1. Graduates from this course will demonstrate KNOWLEDGE and CURIOSITY	Describe and discuss the key biological concepts and phenomena relevant to Ecology and Conservation, and to do so confidently, accurately and in detail, using appropriate terminology. Be aware of the historical context, ethical issues, and societal impacts of advances in Ecology and Conservation and appreciate the contribution of the field to the innovations that characterise the modern world and their potential future impact.	Recall basic knowledge of key biological concepts in the subjects that underpin the understanding of Ecology and Conservation, including plant and animal evolution, biomes and ecosystems, genetics, and cell biology. Demonstrate an appreciation of the historical context of subjects in the field and the global reach of Ecology and Conservation, the impact on human life and the environment and the ethical considerations implicit in their application.	Explain ecological phenomena in evolution, form, interaction, and behaviour of living organisms, and describe the relevance to sustainability. Recognise the relationships and interfaces between Ecology and Conservation and other subjects, enabling efficient interactions in a multidisciplinary environment, and identify and discuss the application of Biosciences to solving current and future challenges in the world.	Apply a comprehensive knowledge of concepts and phenomena in Ecology and Conservation including the factors influencing biodiversity, population dynamics and evolution, and demonstrate evidence of enquiry beyond this. Critically assess the merits of contrasting subject-specific theories, paradigms, concepts, and principles, and develop a reasoned argument to support their position on a topic using evidence from a range of published articles. Engage with philosophical and ethical debates arising from current advances in the biosciences and their impact on society. Demonstrate awareness of the cutting-edge developments in the field and relevant interdisciplinary activity and the potential of Ecology and Conservation graduates to develop solutions to current and future challenges.
2. Graduates from this course will demonstrate PRACTICAL SKILLS and RISK AWARENESS	Select and carry out appropriate quantitative and qualitative practical, laboratory and computational techniques to solve problems relevant to the course, including consideration of the theoretical basis and limitations of various techniques, and be able to work safely with	Demonstrate individual competency in a selection of appropriate practical techniques relevant to the course. Recognise Good Laboratory Practice and record data accurately.	Demonstrate individual competency in a broad range of appropriate qualitative and quantitative practical techniques and discuss their theoretical basis and limitations.	Design an approach and use appropriate practical techniques and skills to address the aims of a research project or investigation, whilst discussing the limitations of the techniques and suggesting alternatives. Implement Good Laboratory Practice in the way experiments are planned, performed, monitored, recorded, reported, and retained.

	an awareness of the associated risks.	Follow instructions to work safely and demonstrate awareness of the relevant risk factors involved in both biological and chemical laboratory activities.	Follow Good Laboratory Practice in the planning, performance and recording of results. Follow standard operating procedures to enact safe working practices whilst understanding the relevant risks from biological and chemical factors and how to mitigate them.	Independently produce and apply risk assessments for completing project work in a safe and reliable manner, including identification of relevant risks from biological, chemical, laboratory or field-based work.
3. Graduates from this course will be able to DESIGN EXPERIMENTS AND ANALYSE DATA	Apply knowledge and understanding of biological systems and methodologies to design experiments and to solve theoretical and practical problems, with awareness of appropriate controls, possible bias, ethics and sustainability. Collect qualitative and quantitative data from investigations relevant to the course and analyse and interpret these data to allow testing of hypotheses, contextualisation of findings, presentation of results, and suggestions for further lines of investigation. Deploy mathematical and statistical concepts, processes, and tools, such as the manipulation of equations and graphical and statistical analysis, to solve problems or evaluate data.	Design simple experiments and consider appropriate controls and sources of possible bias. Record data accurately and perform appropriate data analysis and presentation of results. Carry out numerical calculations and statistical analyses as appropriate in Ecology and Conservation and interpret the outcomes. Reflect on practical outcomes in terms of the quality of results obtained.	Devise and evaluate solutions to solve both routine and unfamiliar problems using a range of methods, and demonstrate awareness of appropriate controls, possible bias, ethics, and sustainability. Record data accurately and apply appropriate methods for analysis using numerical calculations, Excel spreadsheets, bioinformatic analysis, and other computational techniques. Present results clearly using appropriate terminology and interpret data with relevant statistical analyses to test hypotheses. Critically assess the quality of evidence obtained and make suggestions for improvement. Place the work in context by integrating relevant information	Discuss the application of techniques relevant to Ecology and Conservation to monitor the diversity and behaviour of living organisms and to investigate and propose solutions to global challenges including environmental change. Demonstrate independent and accurate data collection in the project, including selection of appropriate numerical, statistical, bioinformatic and computational methods for analysis. Present and evaluate data effectively, interpret findings, make and test hypotheses, make decisions, and consider further lines of investigation with a thorough understanding of the context within the field. Evaluate the evidence base for scientific claims in the primary literature by commenting on the adequacy of the methods, data and interpretation.

			from the scientific literature and suggest further lines of investigation.	
4. Graduates from this course will demonstrate RESEARCH SKILLS and the ability to EVALUATE LITERATURE	Complete independent open-ended investigative work through a project/research-based assignment relevant to the course and demonstrate the ability to think independently, work autonomously and solve problems. Engage with literature from Ecology and Conservation to develop insight into the subject and to stay up to date with advances in the field, including aspects of sustainability, while appreciating the fluid nature of knowledge that evolves as new findings emerge. Use appropriate databases, computational techniques, and tools to aid further understanding and insight of Ecological processes, and to innovate and solve problems creatively in a digital world.	Generate a solution to a task by following instructions or using ideas borrowed from elsewhere. Use search strategies to identify published scientific articles relevant to a topic. Apply a variety of methods of study in investigating, recording and analysing material. Demonstrate the ability to appropriately cite and reference source materials.	Assemble and apply information from different sources to address a problem and formulate a solution through independent effort or teamwork. Access and evaluate information from a wide range of sources such as texts, published journal articles, reports and clinical data and demonstrate the ability to put that information into context. Demonstrate critical and analytical skills, including a recognition that statements and hypotheses should be tested, and that evidence is subject to assessment and critical evaluation. Sort, filter, abstract, evaluate and synthesise information from a range of sources to produce a written body of work with complete and accurate citations and references.	Plan, execute and present an independent piece of work which includes analysis or evaluation of data within a supported framework, and demonstrate evidence of time management, problem-solving, and independence. Create solutions to problems using imaginative, creative, or innovative approaches, either independently or with teamwork, and employ appropriate databases, computational techniques and tools. Demonstrate well-developed strategies for updating, maintaining, and enhancing their knowledge of the biosciences, synthesise information from different sources, and generate hypotheses based on current data while acknowledging that our understanding continues to evolve as new findings emerge. Assess the quality of evidence from different sources by evaluating the context, aims, objectives, experimental design, methodology, data interpretation and application of the study.
5. Graduates from this course will demonstrate PROFESSIONAL SKILLS AND BEHAVIOURS	Act professionally, with due regard for legal, ethical, and societal responsibilities, modelling good practice that promotes positive perceptions of Ecology and Ecologists including	Interact with others in groups and understand the importance of inclusive working practices. Recognise the importance of effective communication within a team and demonstrate	Work with others in groups and demonstrate inclusive working practices. Communicate effectively with all members of a team and demonstrate consideration of	Collaborate with others to work in an effective team by coordinating to exchange information and tackle problems. Demonstrate leadership to help drive a project forwards, inspiring and motivating others.

	working successfully in a group environment, contributing positively and flexibly to team outputs.	consideration of the views of others. Recognise and apply the principles and codes of practice that underpin personal and professional integrity and standards. Reflect on their progress from feedback provided.	the views of others and social intelligence. Demonstrate personal integrity and self-awareness of the ethical approach to their work. Reflect on their progress from feedback provided and apply comments on areas of improvement to further pieces of work.	Demonstrate an understanding of how to identify, protect and exploit intellectual property (IP) as part of the scientific innovation process. Evaluate their development of intellectual and transferable skills, for demonstration to employers. Demonstrate resilience and initiative to overcome problems or respond to changes in circumstance.
6. Graduates from this course will demonstrate COMMUNICATION SKILLS and DIGITAL LITERACY	Communicate effectively, selecting appropriate content, media and methods for the audience, purpose, and subject.	Generate short written reports that transfer key information to non-scientists. Give a short verbal presentation on a science topic for a peer group, using PowerPoint or similar software for visual aids. Demonstrate knowledge of fundamental topics for Ecology and Conservation through succinct written (or verbal) answers to exam questions.	Produce written reports in Word or similar software to convey the outcomes of practical work for a scientific audience. Create and deliver a verbal presentation on a science topic for a peer group, using PowerPoint (or similar) to produce high quality visual aids. Demonstrate detailed knowledge of topics in Ecology and Conservation through focussed and accurate written answers to exam questions and be able to defend knowledge verbally.	Create substantial written reports that effectively explain the results of data analysis for a scientific audience, and which communicate information synthesised from published papers in a way that is organised, topical and recognises the limits of current hypotheses. Use creative approaches to design materials that convey key scientific information to scientific or non-scientific audiences. Give a clear, current, and accurate account of the subject area, and critically discuss and debate both with specialists and non-specialists, using appropriate scientific language.

Section 7 - 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 you the opportunity to design, execute and evaluate your own experiments. You 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 modules 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 course and forms a strong element of the tutorial and study session courses. You 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.

Contact hours come in various forms and may take the form of time spent with a member of staff in a lecture or seminar with other students. Contact hours may also be laboratory or, studio-based sessions, project supervision with a member of staff, or discussion through a virtual learning environment (VLE). These contact hours may be with a lecturer or teaching assistant, but they may also be with a technician, or specialist support staff.

The way in which each module on your degree course is assessed will also vary. Assessments designated as 'summative' will receive a mark which will count towards your overall mark for the module, and potentially your degree classification, depending on your year of study. On successful completion of the module you will gain the credits listed.

More detailed information on modules, including teaching and learning methods, and methods of assessment, can be found via the online Module Catalogue. The accuracy of the information contained in this document is reviewed regularly by the university, and may also be checked routinely by external agencies.

Section 8 – Additional costs

There are no single associated costs greater than £50 per item on this degree course.

These estimated costs relate to studying this particular degree course at Royal Holloway. General costs such as accommodation, food, books and other learning materials and printing etc., have not been included, but further information is available on our website.

Section 9 – Indicators of quality and standards	
QAA Framework for Higher Education Qualifications (FHEQ) Level	4-6
Your course is designed in accordance with the FHEQ to ensure your qualification is awarded on the basis of nationally established standards of achievement, for both outcomes and attainment. The qualification descriptors within the FHEQ set out the generic outcomes and attributes expected for the award of individual qualifications. The qualification descriptors contained in the FHEQ exemplify the outcomes and attributes expected of learning that results in the award of higher education qualifications. These outcomes represent the integration of various learning experiences resulting from designated and coherent courses of study.	
QAA Subject benchmark statement(s)	http://www.qaa.ac.uk/quality-code/subject-benchmark-statements
Subject benchmark statements provide a means for the academic community to describe the nature and characteristics of courses in a specific subject or subject area. They also represent general expectations about standards for the award of qualifications at a given level in terms of the attributes and capabilities that those possessing qualifications should have demonstrated.	

Section 10– Intermediate exit awards (where available)		
You may be eligible for an intermediate exit award if you complete part of the course as detailed in this document. Any additional criteria (e.g. mandatory modules, credit requirements) for intermediate awards is outlined in the sections below.		
Award	**Criteria**	**Awarding body**
Diploma in Higher Education (DipHE)	Pass in 210 credits of which at least 90 must be at or above FHEQ Level 4 and at least 120 of which must be at or above FHEQ Level 5	Royal Holloway and Bedford New College
Certificate in Higher Education (CertHE)	Pass in 120 credits of which at least 90 must be at or above FHEQ Level 4	Royal Holloway and Bedford New College