

Royal Holloway, University of London Course specification for an undergraduate award BSc Zoology with a Year in Industry (C₃O₂)

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 Zoology with a Year in Industry is delivered in four stages, each of which, apart from the year in industry, comprises one year of full-time study, during which you must follow modules to the value of 120 national credits. The curriculum is based around a core set of mandatory modules providing a broad base of biology and zoology in the first stage, with essential training in evolution, systematic and quantitative biology and animal behaviour in stage two and a study of behavioural ecology and biodiversity as well as an individual research project in the final Stage.

Stage one comprises six mandatory modules (totalling 90 credits) which seek to provide a broadly based introduction to zoology. These modules introduce the core areas of Ecology and Conservation, Vertebrate Evolution and Diversity, Genetics, Cell Biology and Animal Physiology. The remaining credits are taken from the optional choices available, from the selection of Biomes and Ecosystems, Biology in a Changing World, Introduction to Human Physiology or Fundamental Biochemistry, enabling you to adapt the degree towards your particular interests. In Stage two you take 4 mandatory modules to the value of 60 credits and choose further optional modules from the range of organismal and molecular options available. The mandatory modules include Animal Behaviour, Evolution and Invertebrate Biology. The Stage two options include a residential Marine Biology field course held at the Millport Marine Biology Centre in Scotland, as well as the Practical Field Ecology module that operates on and around the campus. Other options include Developmental Biology, Microbiology, Cell Dynamics and Human Physiology. In Stage three you spend a year in a relevant placement setting, to gain valuable experience in the workplace. The assessment from this placement counts as 30 credits which for the purposes of award classification is counted in the final stage. In Stage four you take 2 mandatory modules to the value of 45 credits, including Extreme Animal Physiology and the Individual Research Project. You also choose 4 of the organismal and molecular options available. Most of these modules closely reflect the research interests of members of staff who are all specialists in their fields. Optional modules at this Stage include Conservation Science, Evolutionary Ecology of Vertebrates, Circadian Biology, as well as the residential overseas field modules Conservation Ecology in the Field, and Tropical Rainforest Expedition. The individual research project provides training in a specialised research area of zoology and also in generic skill

The course provides coverage across a range of modern animal 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 you to transfer to other degree streams within the Department up to the start of the second term, or indeed to other Organismal Bioscience degrees up to the start of the second year. You can also take up to 30 credits from outside the Department of Biological Sciences, but within other Science Departments, during stage two/four. Options are selected in consultation with the student's Personal Tutor and the Director of Teaching/Department Lead in UG Education.

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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	April 2204	Location of study	Egham Campus	
Course award and title	BSc Zoology with a Year in Industry	Level of study	Undergraduate	
Course code	3480	UCAS code	C ₃ 02	
Year of entry	2024/25			
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	Duration of the course	Four years	
Accrediting Professional, Statutory or Regulatory Body requirement(s)	You must pass the BS3010 Individual Research Project to qualify for an Honours Degree in Zoology with a Year in Industry; 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	Module title	Credits	FHEQ level	Module status
i eai		Widule title	Credits	THEG level	
	code				(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	BS1051	Ecology and Conservation	15	4	MC
1	BS1061	Introductory Animal Physiology	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	BS2120	Biological Data Analysis and Interpretation	15	5	MC
2	BS2140	Animal Behaviour	15	5	MC
2	BS2160	Evolution	15	5	MC
3	BS3900	Year in Industry	30	6	MNC
4	BS3010	Individual Research Project	30	6	MNC
4	BS3220	Extreme Animal Physiology	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 stage 1 you must choose options to the value of 30 credits from the list of stage one modules offered by the Department. In stage 2 you must choose options to the value of 60 credits from the list of stage two modules offered by the Department. In stage 4 you must choose options to the value of 75 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 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 <u>Academic Taught Regulations</u> but fail to pass the Moodle-based Academic Integrity module will not be permitted to progress into their second year of academic study.

Year in Industry



Students taking an industrial year take additional module BS3900 and thus have 150 credits in their final year.

Students on degree courses with Year in Industry need to fulfil the requirements set out in the departmental Year in Industry Handbook in order to progress to the placement and be eligible for the degree title.

Section 5 - Educational aims of the course

The aims of the Honours Degree course in Zoology with a Year in Industry are to:

- provide a sound knowledge and understanding of the organismal and molecular principles of the subject through a core set of modules, and develop an insight into the current frontiers of knowledge, primarily by selecting a series of second and more particularly specialised final year module options which focus on selected areas of topical importance in zoology;
- 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 professional experience in a relevant workplace environment;
- provide experience of independent research through a final year project that focuses on an area of zoology;
- 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 (*))

Skills and other attributes	kills and other attributes (S), and Transferable skills (*))				
Theme	Course learning outcome	Level 4	Level 5	Level 6	
		Recall basic knowledge of key biological concepts in the subjects that underpin the understanding of Zoology, including animal physiology, ecology, genetics and cell biology. (curiosity, sense making) Demonstrate an appreciation of the historical context of subjects in the field and the global reach of Zoology, the impact on human life and the environment and the ethical considerations implicit in their application. (sense making; integrity)	Explain biological phenomena in evolution, diversity, animal form and function, and how these relate to their behaviour. (curiosity, sense making, communicating) Recognise the relationships and interfaces between Zoology 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. (sense making, critical thinking)	Apply a comprehensive knowledge of concepts and phenomena in Zoology including the effects of the environment on animal physiology and behaviour, and the challenges of global change on conservation and biodiversity, and demonstrate evidence of enquiry beyond this. (sense making, curiosity) 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. (focussing, critical thinking, communicating) Engage with philosophical and ethical debates arising from current advances in the biosciences and their impact on society. (Integrity, communicating) Demonstrate awareness of the cuttingedge developments in the field and	



2 Creductes for a the	Colook and countries to the control of	Dono on otroto in divisional	Demonstrate in dividual accounts:	Design on annuage and tra-
2. Graduates from this	Select and carry out appropriate	Demonstrate individual	Demonstrate individual competency in	Design an approach and use
course will demonstrate	quantitative and qualitative	competency in a selection of	a broad range of appropriate	appropriate practical techniques and
PRACTICAL SKILLS and	practical, laboratory and	appropriate practical techniques	qualitative and quantitative practical	skills to address the aims of a research
RISK AWARENESS	computational techniques to	relevant to the course.	techniques and discuss their	project or investigation, whilst
	solve problems relevant to the	(integrity [self control])	theoretical basis and limitations.	discussing the limitations of the
	course, including consideration of		(integrity [self control])	techniques and suggesting
	the theoretical basis and	Recognise Good Laboratory		alternatives. (sense making, initiative,
	limitations of various techniques,	Practice and record data	Follow Good Laboratory Practice in the	creativity, curiosity)
	and be able to work safely with an	accurately. (communicating)	planning, performance and recording	
	awareness of the associated		of results. (integrity, communicating)	Implement Good Laboratory Practice
	risks.	Follow instructions to work safely		in the way experiments are planned,
		and demonstrate awareness of the	Follow standard operating procedures	performed, monitored, recorded,
	(integrity, initiative, sense making,	relevant risk factors involved in	to enact safe working practices whilst	reported and retained. (integrity,
	critical thinking, communicating,	both biological and chemical	understanding the relevant risks from	communicating, curiosity)
	curiosity)	laboratory activities.	biological and chemical factors and	
	Carrosity)	(initiative, sense making, critical	how to mitigate them.	Independently produce and apply risk
		thinking)	(initiative, sense making, critical	assessments for completing project
			thinking)	work in a safe and reliable manner,
				including identification of relevant
				risks from biological, chemical,
				laboratory or field-based work.
				(initiative, sense making, critical
				thinking)
				<u> </u>
3. Graduates from this	Apply knowledge and	Design simple experiments and	Devise and evaluate solutions to solve	Discuss the application of techniques
course will be able to	understanding of biological	consider appropriate controls and	both routine and unfamiliar problems	relevant to Zoology to monitor the
DESIGN EXPERIMENTS	systems and methodologies to	sources of possible bias.	using a range of methods, and	diversity, physiology and behaviour of
AND ANALYSE DATA	design experiments and to solve	(initiative)	demonstrate awareness of appropriate	animals and to investigate the effects
	theoretical and practical		controls, possible bias, ethics, and	of different environments and
	problems, with awareness of	Record data accurately and	sustainability. (initiative)	habitats.
	appropriate controls, possible	perform appropriate data analysis		(critical thinking, sense making)
	bias, ethics and sustainability.	and presentation of results.	Record data accurately and apply	,
		(communicating)	appropriate methods for analysis using	Demonstrate independent and
	Collect qualitative and		numerical calculations, Excel	accurate data collection in the project,
	quantitative data from	Carry out numerical calculations	spreadsheets, bioinformatic analysis,	including selection of appropriate
	investigations relevant to the	and statistical analyses as		numerical, statistical, bioinformatic
L		1	1	



	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. (initiative, adapting, critical thinking, communicating, sense making, focussing)	appropriate in Zoology and interpret the outcomes. (initiative, sense making) Reflect on practical outcomes in terms of the quality of results obtained. (initiative, adapting, critical thinking)	and other computational techniques. (communicating) Present results clearly using appropriate terminology and interpret data with relevant statistical analyses to test hypotheses. (initiative, sense making, focussing) Critically assess the quality of evidence obtained and make suggestions for improvement. (adapting, critical thinking) Place the work in context by integrating relevant information from the scientific literature and suggest further lines of investigation. (sense making, critical thinking)	and computational methods for analysis. (initiative, sense making) 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. (communicating, sense making, focussing) Evaluate the evidence base for scientific claims in the primary literature by commenting on the adequacy of the methods, data and interpretation. (critical thinking, sense making)
4. Graduates from this course will demonstrate RESEARCH SKILLS and the ability to EVALUATE LITERATURE	Complete independent openended 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 Zoology 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	Generate a solution to a task by following instructions or using ideas borrowed from elsewhere. (adapting) Use search strategies to identify published scientific articles relevant to a topic. (focussing, curiosity) Apply a variety of methods of study in investigating, recording and analysing material. (focussing, sense making)	Assemble and apply information from different sources to address a problem and formulate a solution through independent effort or teamwork. (focussing, initiative, collaborating) 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. (focussing, sense making) Demonstrate critical and analytical skills, including a recognition that statements and hypotheses	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. (initiative, creativity, adapting) Create solutions to problems using imaginative, creative or innovative approaches, either independently or with teamwork, and employ appropriate databases, computational techniques and tools. (initiative,



	nature of knowledge that evolves as new findings emerge. Use appropriate databases, computational techniques and tools to aid further understanding and insight of biological processes, and to innovate and solve problems creatively in a digital world. (initiative, adapting, critical thinking, communicating, sense making, curiosity, focussing, integrity, collaborating, leading)	Demonstrate the ability to appropriately cite and reference source materials. (integrity)	should be tested, and that evidence is subject to assessment and critical evaluation. (critical thinking, sense making) 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. (focussing, sense making, integrity)	creativity, sense making, collaborating, leading) 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. (critical thinking, sense making, focussing, curiosity) 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 Zoology and Zoologists including working successfully in a group environment, contributing positively and flexibly to team outputs. (adapting; initiative, collaborating, leading, feeling, integrity)	Interact with others in groups and understand the importance of inclusive working practices. (Collaborating) Recognise the importance of effective communication within a team and demonstrate consideration of the views of others. (Feeling) Recognise and apply the principles and codes of practice that underpin	Work with others in groups and demonstrate inclusive working practices. (Collaborating) Communicate effectively with all members of a team and demonstrate consideration of the views of others and social intelligence. (Feeling) Demonstrate personal integrity and self-awareness of the ethical approach to their work. (Integrity)	(curiosity, sense making) Collaborate with others to work in an effective team by coordinating to exchange information and tackle problems. (Collaborating) Demonstrate leadership to help drive a project forwards, inspiring and motivating others. (Leading) Demonstrate an understanding of how to identify, protect and exploit intellectual property (IP) as part of the scientific innovation process. (sense making)



		personal and professional integrity and standards. (Integrity) Reflect on their progress from feedback provided. (adapting)	Reflect on their progress from feedback provided and apply comments on areas of improvement to further pieces of work. (adapting, initiative)	Evaluate their development of intellectual and transferable skills, for demonstration to employers. (adapting) Demonstrate resilience and initiative to overcome problems or respond to changes in circumstance. (adapting; initiative)
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. (communicating, focussing, sense making, creativity, initiative, feeling)	Generate short written reports that transfer key information to non-scientists. (communicating) Give a short verbal presentation on a science topic for a peer group, using PowerPoint or similar software for visual aids. (communicating, creativity) Demonstrate knowledge of fundamental topics for Zoology through succinct written (or verbal) answers to exam questions. (communicating, focussing, sense making)	Produce written reports in Word or similar software to convey the outcomes of practical work for a scientific audience. (communicating, focussing, sense making) Create and deliver a verbal presentation on a science topic for a peer group, using PowerPoint (or similar) to produce high quality visual aids. (communicating, creativity, initiative) Demonstrate detailed knowledge of topics in Zoology through focussed and accurate written answers to exam questions and be able to defend knowledge verbally. (communicating, focussing, sense making)	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. (communicating, focussing, sense making) Use creative approaches to design materials that convey key scientific information to scientific or nonscientific audiences. (communicating, creativity, iniative) 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. (communicating, sense making, focussing, initiative, feeling)



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 final stage research project, and for literature skills the preparation of a literature report. You have to prepare your own risk assessment prior to commencing your final year project work.

Training in intellectual and key transferable skills is embodied throughout the course and forms a strong element of the tutorial and study session programme. You are required to meet basic standards in information technology.

Assessment of knowledge and understanding is 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. Full details of the assessments for individual modules can be obtained from the Department.

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 <u>Module Catalogue</u>. 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 years 1, 2 and 4 of this degree course, however, costs incurred by students while on a Year in Industry/Business (year 3) vary depending on the nature and location of the placement. For further information please contact the <u>Student Services Centre</u>

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