OXFORD BROOKES UNIVERSITY

PROGRAMME SPECIFICATION

for the award of BSc Biological Sciences (Zoology)
IOZ / BSCH IOZ

Managed by the Faculty of Health and Life Sciences

Delivered by Department of Biological and Medical Sciences

Date approved:	28th September 2018
Applies to students commencing study in:	September 2019

RECORD OF UPDATES

Date amended*	Nature of amendment**	Reason for amendment**

SECTION 1: GENERAL INFORMATION

Awarding body:	Oxford Brookes University
Teaching institution and location:	Oxford Brookes University, Gipsy Lane
Language of study:	English
Final award:	BSc(Hons)
Programme title:	Biological Sciences (Zoology)
Interim exit awards and award titles available:	BSc, Named DipHE, CertHE
Brookes course code:	IOZ / BSCH IOZ
UCAS code:	C000 BSc/IOZ
JACS code:	C700 or C000 Biological Sciences
HECoS code:	(100345) Biological Sciences
Mode of delivery:	Face to face/on-campus (full-time) Face to face/on-campus (part-time) *Sandwich mode (face to face/on campus/placement) ***Year 3** can be a professional placement in a laboratory concerned with research or professional training.
Mode/s and duration of study:	The normal duration of a programme leading to the award of a Bachelor's Degree (BSc) with Honours is 3 years for full-time study, or 4 years for sandwich mode (with a year placement). Part-time is normally 6 years duration.
QAA subject benchmark statement/s which apply to the programme:	Biosciences 2015
Professional accreditation attached to the programme:	N/A
University Regulations:	The programme conforms to the University Regulations for the year of entry as published/archived at: http://www.brookes.ac.uk/regulations/

SECTION 2: WHY STUDY THIS PROGRAMME?

The BSc Biological Sciences (Zoology) is an interdisciplinary degree that seeks to understand all aspects of the biology of animals from their evolution, genetics, development, morphology and behaviour to their ecology and conservation. Therefore, this Programme will contain molecular and biochemical aspects of animal biology - namely genomics, genetics, cell structure, development and physiology as well as linking their neurobiology to behaviour and including field work to explore their interaction with the environment and evaluate conservation programmes. .

This Programme reflects the wide ranging expertise in Zoology represented by staff in the department who will teach this course. The interdisciplinary nature of this Programme also means that students will be furnished with state-of-the-art training in lab techniques, field work and computational biology, and transferable skills directly relevant to employment in a wide range of jobs.

Key features of the programme at Brookes are the emphasis on practical work and opportunities for work experience, which take advantage of the University's proximity to Oxfordshire's science parks. Students are also encouraged to broaden their education by studying for a semester or year as part of their Brookes degree at a partner English speaking university abroad.

The programme aims to:

- Provide an integrative framework for the major disciplines of Biological Sciences (Zoology): molecular biology, developmental biology, genetics, bioinformatics, neurobiology, behaviour, ecology, evolution and conservation;
- Develop a broad knowledge and understanding of the structural and functional mechanisms influencing animal organisation from molecular through to ecosystem levels;
- Develop scientific skills required to formulate, study and interpret biological problems and processes in laboratory situations;
- Develop knowledge and understanding of the applicability of Biological Sciences (Zoology) study to a broad range of scientific and social issues;
- Provide an awareness of the dynamic nature of the subject resulting from rapid developments in research findings and applications;
- Provide a range of teaching and learning experiences to help focus student career aspirations and decision making as responsible members of society;
- Facilitate work-related learning by providing opportunities for students to interact with potential employers;
- Provide opportunities for international study abroad.

SECTION 3: PROGRAMME LEARNING OUTCOMES

On successful completion of the programme, graduates will demonstrate the following Brookes Attributes:

3.1 ACADEMIC LITERACY

- integrate understanding of the core processes and functions within animals from sub-cellular to community levels;
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- Appraise how animals function in terms of the mechanistic properties of their body plan, physiology, behaviour, development and metabolism, and place this in ecological and evolutionary contexts;
- Explain and evaluate scientific bases underlying the subject using sound knowledge of Biological Sciences
- Exhibit knowledge of the broader scientific context in which the subject specialisms are embedded

- Demonstrate an understanding of how the boundaries of knowledge are advanced through research

3.2 RESEARCH LITERACY

- Employ the skills acquired in the degree to appreciate and critically apply the scientific method to experimental design and problem solving
- Evaluate novel developments within the selected subject areas
- Communicate ideas and results, both verbally and in writing, with clarity and in a manner appropriate to a given audience (also fits 3.3)
- Critically research, review, synthesise, summarise and analyse subject-specific information from a variety of sources including published research to construct a coherent thesis on Biological Sciences
- Independently design and conduct studies to investigate biological phenomena whilst taking into account the principles underlying biological processes
- Select and use competently and safely appropriate field and/or laboratory methods and techniques in a variety of context (also fits 3.3)
- Record and report findings using accepted scientific formats (including verbal, textual, numerical and graphical).

3.3 CRITICAL SELF-AWARENESS AND PERSONAL LITERACY

- demonstrate confidence and flexibility as independent learners to enhance employability;
- Express ideas using appropriate scientific and subject-specific language, both verbally and in writing, in a manner appropriate to diverse audiences
- Integrate and apply the qualities, skills and intellectual rigour, developed during study, to situations which require professionalism, independent thought, personal responsibility, critical self-awareness, decision making in complex and unpredictable circumstances, problem solving skills and the ability to work in a range of roles within a team
- Reflect on outcomes in order to evaluate the performance of oneself and others
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3.4 DIGITAL AND INFORMATION LITERACY

- Apply information technology for scientific, communication, data analysis and information retrieval
- Search the scientific literature, extract information, organise and evaluate it
- select and use appropriate information technology and digital data handling tools in the context of Biological Sciences (Zoology) (also fits 3.1);

3.5 ACTIVE CITIZENSHIP

- Appraise global perspectives, developed through topics or even modules, that relate to particular international issues or contexts such as in human genetics and animal conservation
- Learn and think independently as part of a commitment to lifelong learning and appreciate the value of different points of view
- Justify a position on the ethical concerns of biological research
- Understand and adhere to legislation regarding health and safety in the laboratory and the field

SECTION 4: CURRICULUM CONTENT & STRUCTURE

4.1 PROGRAMME STRUCTURE AND REQUIREMENTS:

Code	Banner Codes	Module Title	Credits	Level	Status	Coursework: Exam ratio
U14501	BIOL4001	Biodiversity	30	4	Compulsory	50:50
U14502	BIOL4002	Cell Biology & Genetics	30	4	Compulsory	50:50
	BIOS4006	Introduction to Biochemistry A	15	4	Compulsory	100:0

U15502	BIOL4008	Field Course: Identification and Methodology	15	4	Compulsory	100:0
	BIOL4004	The Practising Scientist	30	4	Compulsory	100:0
U14568	BIOS5008	Special Study in Life Sciences*	15	5	Optional	100:0
U15531	BIOL5014	Molecular Biology	15	5	Optional	50:50
U15532	BIOL5015	Genetics	15	5	Compulsory	50:50
U14533	BIOS5004	Microbiology	15	5	Optional	40:60
U15535	BIOL5017	Data Carpentry	15	5	Compulsory	100:0
	BIOL5002	Interrogating Genomes	15	5	Compulsory	100:0
U15536	BIOL5018	Cell Biology	15	5	Optional	40:60
	BIOL5001	Career Development	15	5	Compulsory	100:00
U15534	BIOL5016	Animal Developmental Biology	15	5	Compulsory	50:50
U15552	BIOL5022	Animal Behaviour	15	5	Compulsory	50:50
U15553	BIOL5023	Threatened Species	15	5	Optional	30:70
U14565	BIOS5007	Industrial Experience Semesters	15	5	Compulsory for Sandwich mode students only	100:0
	BIOL6012	Animal Neurobiology and Behaviour	15	6	Compulsory	100:0
	BIOL6010	Professional Skills and Techniques	15	6	Compulsory	100:0
	BIOL6011	Advanced Genetics and Genomics	15	6	optional	100.0
U15570	BIOL6004	Science and Humanity	15	6	Optional	40:60
U15571	BIOL6005	Evolution and Animal Development	30	6	Optional	30:70
U15591	BIOL6008	Advanced Topics in Wildlife Conservation	15	6	Optional	50:50
U14584	BIOL6001	Advanced Topics in Cell Biology & Bio-imaging	30	6	Optional	40:60
U14588	BIOL6009	Independent Study in Life Sciences	15	6	Optional	100:0
	BIOL6013	Work Experience	15	6	Optional	100:0
U14699	BIOS6010	Project	30	6	Compulsory	100:0

*A study that is relevant to the student's programme that is offered in exceptional circumstances at the discretion and instigation of the module leader.

4.2 PROGRESSION AND AWARD REQUIREMENTS

In order to satisfactorily complete a year of full-time study, a student must:

1. either pass at least 6 module credits during the year, or, if on placement, complete specific requirements set for the placement;
2. by the end of the year, normally be in a position to proceed with a programme which, if passed, would satisfy the requirements for an award within the remaining period of normal full-time study for that award.

In order to satisfactorily graduate with a

- BSc Hons Biological Sciences (Zoology) degree: a student must meet the University requirements for number and level of modules completed, to include all necessary requirements for compulsory and optional modules.

- BSc Biological Sciences (Zoology): a student must meet the University requirements for number and level of modules completed, to include all necessary requirements for compulsory and optional modules. For a BSc degree, the following modules need to be taken: BIOL5016 Animal Developmental Biology, BIOL5022 Animal Behaviour and BIOL6012 Animal Neurobiology and Behaviour.
- Named Dip HE: a student must meet the University requirements for number and level of modules completed, to include all necessary requirements for compulsory and optional modules. For a named Dip HE, one of the following optional modules is compulsory: BIOL5016 Animal Developmental Biology, BIOL5022 Animal Behaviour and BIOL6012 Animal Neurobiology and Behaviour.

Course diagrams are included in the programme handbook.

4.3 PROFESSIONAL REQUIREMENTS

None

SECTION 5: TEACHING AND ASSESSMENT

Discussions between programme staff ensures that the programme is characterised by an appropriate breadth and depth of content that is informed by relevant benchmark statements and the latest research. The programme includes a variety of teaching, learning and assessment methods that are informed by contemporary practice in science teaching in higher education. Assessment methods include essays, reviews, laboratory/field notebooks, scientific reports, mock grant proposals, web site design, posters and oral presentations. All of these activities are designed to develop the Graduate Attributes. Reflective learning is encouraged through use of self, peer and staff formative feedback on assignments, group work and project work, and reflective diaries all of which are designed to develop Critical self-awareness and personal literacy. All modules make use of the Brookes Virtual Learning Environment for locating module resources including lectures and online resources, but often also for quizzes, discussion groups and coursework submissions and feedback.

Assessment is designed to ensure that students progress towards meeting programme learning outcomes while experiencing diversity and balance in assessment practice within and between modules and equity in module workloads. We are committed to providing students with clear assessment criteria, and useful and timely feedback on all their work. This represents a co-ordinated implementation of the University Assessment Compact.

The quality of academic provision for students is assessed regularly by programme teams, principally through annual student evaluation of each module, and through critical evaluation of the annual external examiner reports.

Knowledge and understanding in many areas of science represented by this programme are rapidly advancing. Research active staff ensure that their teaching is kept up-to-date by integrating, where appropriate, the latest research findings in their lectures. Articles from primary research journals feature in student reading lists, particularly at level 6, and students are encouraged to use primary research journals in preparing assignments. Students also have the opportunity to attend weekly research-focused seminars delivered by members of staff or invited speakers. All these activities are designed to develop Academic literacy. Digital and information literacy is developed through using appropriate information technology and digital data handling tools in the context of Biological Sciences (Zoology).

The standards that are expected in research are also widely taught and practised. The level 6 modules, in particular, provide opportunities for students to undertake substantial independent research-type activities (e.g., drafting a research proposal, final year project). These activities are designed to develop Research literacy.

Global citizenship is encouraged and nurtured in this programme in a number of ways: the use in teaching of international text books and journals that expose UK students to non-UK perspectives; study abroad opportunities; international staff exchanges and visits that expose students to different cultural perspectives; and the inclusion of a ‘Science and Humanity’ module at level 6 that encourages students

to think beyond their cultural perspectives. The Biological Sciences (Zoology) degree programme also includes a field-course module to broaden their experiences by encountering unfamiliar assemblages of plants and animals influenced by different regional cultural and social environmental attitudes. Many topics addressed in the Biological Sciences (Zoology) degree emphasise global perspectives (e.g. human health and disease; biodiversity and conservation). Hence, international case studies form a regular component of some modules and assessments require students to demonstrate their knowledge of international issues and perspectives.

Most of our modules include lectures and laboratory or field based practicals. There are on average 20 hours of lectures and 12 hours of practicals per single credit module (=150 hours of student effort). There is approximately an even split between modules that are 100% coursework and modules that are assessed part by coursework and part by a written exam.

The programme handbook provides a further commentary on how the Graduate Attributes (Academic literacy, Research literacy, Critical self-awareness and personal literacy, Digital and information literacy, Global citizenship) are developed through the programme. In addition, students have tutorial discussions with their academic advisor, particularly in their first year, which focus on identifying module content and activities leading to their acquisition of Graduate Attributes, and their experience of them.

The programme conforms to the University Regulations for the Undergraduate Modular Programme (UMP).

SECTION 6: ADMISSION TO THE PROGRAMME

6.1 ENTRY REQUIREMENTS

Further details and admissions requirements can be found on the Oxford Brookes website.

Students who are studying more than one science subject at A-level may receive a lower offer because of their evident commitment to science. Preferred science subjects include Biology, Chemistry, Mathematics and Physics.

6.2 DBS AND OTHER PRE-COURSE CHECKS REQUIRED

Not Applicable

SECTION 7: PREPARATION FOR EMPLOYMENT

The skills and knowledge gained on this course are directly relevant to a number of careers in the area of conservation of endangered species and habitats, animal education and welfare, controlling pests and diseases, drug development, journalism, teaching and research.

Others will find jobs in conservation management and environmental agencies, and agricultural and biotechnology industries. There are other career paths in the civil service, forensic sciences, teaching, the food industry, commercial analytical laboratories, professions allied to medicine, and in government and industrial research laboratories.

An Biological Sciences (Zoology) degree also offers an excellent general university education and can provide a gateway to careers in management, journalism and the media, finance and other areas of commerce, law, computing and the leisure industry.

Many of our graduates will go on to research positions or enrol on MScs.

As part of the Career Development module in the second year students get essential training in professional career management skills designed to assist them in actively planning and preparing for their future career enabling them to compete in the graduate job market. The University's Career Consultants and employers are involved within this module. Students also take part in organising a careers event with a chance to talk to employers and alumni across a range of subjects. Career talks are given throughout the year.

The Work Experience module gives the opportunity to work in a relevant organisation, often during part of a summer vacation, and in the process gain a module credit which counts towards the degree. There is also the option of doing a year in Industry.

Visiting speakers from relevant industries/professions also help create links with potential employers.