



Programme Specification

Wildlife Ecology and Conservation Science

[Sep][SW][Zoo][4yrs]

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Section 1: Key Programme Details

Part A: Programme Information

Programme title: Wildlife Ecology and Conservation Science [Sep][SW][Zoo][4yrs]

Highest award: BSc (Hons) Wildlife Ecology and Conservation Science

Interim award: BSc Wildlife Ecology and Conservation Science

Interim award: DipHE Wildlife Ecology and Conservation Science

Interim award: CertHE Wildlife Ecology and Conservation Science

Awarding institution: UWE Bristol

Affiliated institutions: Not applicable

Teaching institutions: UWE Bristol

Study abroad: No

Year abroad: No

Sandwich year: Yes

Credit recognition: No

Department responsible for the programme: HAS Dept of Applied Sciences,
Faculty of Health & Applied Sciences

Contributing departments: Not applicable

Professional, statutory or regulatory bodies: Not applicable

Apprenticeship: Not applicable

Mode of delivery: Sandwich

Entry requirements: For the current entry requirements see the UWE public website

For implementation from: 01 September 2021

Programme code: C15B-SEP-SW-BZ-C152

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: Conservation Science is a new, multi-disciplinary science that has evolved in response to the national and global issues confronting biological diversity and the impact on wildlife. The BSc (Hons) Wildlife Ecology and Conservation Science programme is a four year sandwich degree designed to provide graduates with an in-depth understanding of the scientific study of wildlife, the diversity of living organisms and their habitats, and the practical steps that can be taken for effective conservation. It provides an opportunity for students to explore the theory and practice related to wildlife conservation, and to develop both subject-specific and important generic graduate skills, such as practical and analytical skills, work experience, project management, use of technology and communication media. The programme aims to develop in students an in-depth understanding the relationship between wildlife and society, the impacts of human activities on the living world, and an appreciation of the practical steps that can be taken to ameliorate biodiversity decline. It takes a multi-disciplinary approach, considering not only the science underpinning the diversity and ecology of wildlife, their habitats and contemporary scientific approaches to conservation, but also legislative, socio-economic factors and the role of communication. This approach allows students to make an informed evaluation of possible solutions to biodiversity loss and propose conservation action plans.

The design of the programme enables the student to:

Explore the complexity and diversity of the living world, its evolution and function at an organismal, population, community and ecosystem scale, and its relationship with the physical environment.

Examine how plants and animals interact with each other and their environment.

Understand the impact of human activities on the living world and the resulting threat to global biodiversity.

Evaluate a range of possible solutions to biodiversity loss, not only from a biological perspective, but also taking into account legislative and socio-economic factors and the role of communication.

Develop subject-specific and generic skills necessary for employment, such as underpinning knowledge, practical and analytical skills, work experience, project management, use of technology and communication media.

This programme has been developed in consultation with employers so provides graduates with the knowledge and skills necessary to work effectively in the field of national and international wildlife conservation. The programme aims to develop in students an in-depth understanding of the scientific study of wildlife, the diversity of living organisms and their habitats, and the practical steps that can be taken for effective conservation. The programme includes work experience and provides opportunities for students to develop generic skills necessary for employment, such as practical and analytical skills, project management, use of technology and communication media.

Educational Aims: The specific aims of the programme are to:

Provide the educational and resource environment which will enable students with a background in biology to develop:

-an understanding of the living world from a multi-disciplinary and interdisciplinary perspective;

-the field, laboratory, investigative, problem-solving, technical and communication skills necessary to undertake independent investigations and analyses of wildlife conservation problems, and the presentational skills necessary to communicate their findings to audiences with a variety of backgrounds;

-the skills needed by a literate, numerate, technologically agile student capable of independent learning;

-the generic skills needed by a student for employment.

Create a friendly, supportive and contemporary atmosphere that will enable individual students to use the whole learning experience at UWE to create a graduate foundation, on which they can develop their future careers and on-going social and educational development as independent lifelong learners.

Provide a curriculum that is enhanced by the strong relationship between teaching, research, and professional practice and informed by employers.

Programme Learning Outcomes:

On successful completion of this programme graduates will achieve the following learning outcomes.

Knowledge and Understanding

- A1. The structure and functioning of the natural world at an organism, population, community and ecosystem levels.
- A2. The processes which shape the natural world at different temporal and spatial scales including the influence of human activities.
- A3. The relationship between plants, animals and micro-organisms, and how they interact with their environment.
- A4. The terminology, nomenclature and classification systems relevant to wildlife conservation.
- A5. The threats to global biodiversity, current and contemporary approaches to wildlife conservation.
- A6. Methods of acquiring, interpreting and analysing information and data with a critical understanding of the appropriate contexts for their use.
- A7. Awareness of the contribution of their subject to the understanding of biodiversity, its conservation and sustainable management.
- A8. The importance of a multi-disciplinary and interdisciplinary approach to the study of wildlife conservation.

- A9. The importance of subject specific and generic skills for employment in wildlife conservation.

Intellectual Skills

- B1. Recognising and using subject-specific theories, paradigms, concept and principles.
- B2. Analysing, synthesising and summarising information critically, including prior research.
- B3. Collecting and integrating several lines of evidence to formulate and test hypotheses.
- B4. Applying knowledge and understanding to address familiar and unfamiliar problems.
- B5. Synthesising knowledge as an independent learner and a manager of self..
- B6. Recognising the moral and ethical issues of investigation and appreciating the need for professional codes of conduct.

Subject/Professional Practice Skills

- C1. Plan, conduct, and report on scientific investigations, including the use of secondary data.
- C2. Collect, record and analyse data using appropriate techniques in the field and laboratory.
- C3. Undertake field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and to display sensitivity to the impact of investigations on the environment and stakeholders.
- C4. Identify in the field and/or laboratory a range of organisms to family level, and for a specific group of organisms, to species level.
- C5. Undertake field surveys and develop biodiversity management plans.
- C6. Use appropriate technology for the analysis, mapping and interpretation of data.
- C7. Undertake a research project including project design and management and communicate findings using appropriate communication media.

- C8. Reference work in an appropriate manner and compare findings to published literature.

Transferable Skills and other attributes

- D1. Receive and respond to a variety of sources of information (eg. textual, numerical, verbal, graphical and electronic).
- D2. Communicate appropriately to a variety of audiences using a range of formats, approaches and contemporary technologies.
- D3. Appreciate issues of sample selection, accuracy, calibration, precision, replicability and uncertainty during collection, recording and analysis of data in the field and laboratory.
- D4. Prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques and packages.
- D5. Solve numerical problems using computer and non-computer based techniques.
- D6. Use the internet and other electronic sources critically as a means of communication and a source of information.
- D7. Recognise and respect the views and opinions of others.
- D8. Evaluate performance as an individual and a team member.
- D9. Develop the skills necessary for a self-managed active learner and life-long learning (eg working independently, time management and organisation skills).
- D10. Appreciate the skills for employment, respond to feedback and work towards targets for personal, academic and career development.

Part B: Programme Structure

Year 1

The student must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules

The student must take 120 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
USSK5B-30-1	Field Skills 2020-21	30

USSK5C-30-1	Life on Earth 2020-21	30
USSJFB-30-1	The Earth 2020-21	30
USSK5D-30-1	Wildlife and Society 2020-21	30

Year 2

The student must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules

The student must take 90 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
USSK5E-30-2	Conservation in Practice 2021-22	30
USSK5F-30-2	Ecology and Ecosystem Protection 2021-22	30
USSK5G-30-2	Environmental and Field Techniques 2021-22	30

Year 2 Optional Modules

The student must take 30 credits from the modules in Optional Modules.

Module Code	Module Title	Credit
USSJQD-15-2	Plant Growth and Survival 2021-22	15
USSKN7-15-2	The Microbial World 2021-22	15
USSJQC-15-2	Wildlife Ecology 2021-22	15

Year 3

Students spend a year out working for an organisation, in an appropriate placement to gain relevant work experience.

Year 3 Compulsory Sandwich Modules

The student must take 15 credits from the modules in Compulsory Sandwich Modules.

Module Code	Module Title	Credit
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USSK57-15-3	Professional Practice in Applied Sciences 2022-23	15
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Year 4

The student must take 105 credits from the modules in Year 4.

Year 4 Compulsory Modules

The student must take 60 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
USSK5J-30-3	Contemporary Conservation Science 2023-24	30

Year 4 Compulsory Modules Options

Students must take either:

USSK5K-30-3

Research Project

OR

USSKBC -30-3

Dissertation Project

Module Code	Module Title	Credit
USSKBC-30-3	Research Dissertation Project 2023-24	30
USSK5K-30-3	Research Experimental Project 2023-24	30

Year 4 Optional Modules

The student must take 45 credits from the modules in Optional Modules.

Module Code	Module Title	Credit
USSKN6-15-3	Global Forest Systems 2023-24	15
USSK55-15-3	Marine Ecosystems 2023-24	15
USSK56-15-3	Primate Ecology and Conservation 2023-24	15
USSK58-15-3	Remote Sensing and Geographical Information Systems (GIS) 2023-24	15

USSKCE-15-3	Science Communication 2023-24	15
USSKNB-15-3	Sustainable Food Production 2023-24	15
USSK59-15-3	Tropical Expedition 2023-24	15
USSKNT-15-3	Wildlife Crime and Forensics 2023-24	15
USSK5A-15-3	Wildlife, Film and Media 2023-24	15

Part C: Higher Education Achievement Record (HEAR) Synopsis

This programme has been developed in consultation with employers so provides graduates with the knowledge and skills necessary to work effectively in the field of national and international wildlife conservation. The programme aims to develop in students an in-depth understanding of the scientific study of wildlife, the diversity of living organisms and their habitats, and the practical steps that can be taken for effective conservation. The programme includes work experience, offers a placement year, and provides opportunities for students to develop generic skills necessary for employment, such as practical and analytical skills, project management, use of technology and communication media.

Part D: External Reference Points and Benchmarks

The Framework for Higher Education Qualifications

The learning outcomes have been developed with reference to the qualification descriptors used in the QAA Framework for Higher Education Qualifications. In particular, the learning outcomes for the modules at Final Year are considered consistent with the QAA's descriptor for a higher education qualification at level 6: Bachelor's degree with honours. Graduates of the programme achieving an Honours classification will have developed a systematic understanding of key aspects of wildlife ecology and conservation science, some of it at the current boundaries of the academic discipline. In addition, graduates will have developed analytical techniques, problem-solving skills and communication skills that can be applied to a range of employment opportunities.

Subject Benchmark Statements

The programme maps well to the Biosciences benchmark statement and, in particular, to its subject specific and generic learning outcomes, as described in detail earlier in the Programme Specification. In addition, the following key concepts and priorities highlighted in the Biosciences benchmark statement were used to inform programme design:

All students should have at least some appreciation of...studies at a variety of levels from molecules to populations. This programme focuses primarily on the study of organisms, populations, communities and ecosystems, although fundamental biological concepts that underpin an understanding of wildlife ecology and conservation, such as physiological processes and knowledge of genetics and evolution, are covered (for example at Level 1 in Life on Earth and at Level 2 in Wildlife Ecology).

Students should develop competence in comparing the merits of alternative hypotheses and receive guidance in terms of how to construct experiments or make observations to challenge them. In all modules, students will be encouraged to explore a range of hypotheses both through their own experimentation, and through the consideration of case studies which both support and refute current paradigms. These skills are developed in the second year when students undertake a group research project in Environmental and Field Techniques. Competence is further developed and assessed to an advanced degree in the Final Year independent Research Project, in which students are expected to devise and undertake original research and to critically compare their findings with existing knowledge and understanding in their chosen subject area.

The biosciences are essentially practical and experimental subjects. This programme places much emphasis on practical work in the broadest sense, including field and laboratory work, computer-based exercises, group and individual project work, literature-based investigations and utilizing communication technologies. In particular, many students will chose to undertake an independent

research project that involves a substantial amount of practical or experimental work, although entirely desk-based studies are relevant in some areas of investigation. In addition, many of the modules contain a substantial amount of practical work, not least through the residential field trips in Field Skills, Environmental and Field Techniques, Marine Ecosystems, and the Tropical Expedition, as well as half and full-day visits undertaken in other modules.

The benchmarking Statement also provides a description of subject standards for degrees in Ecology and Environmental Biology which is a good match to both the subject areas covered and the standards achieved by students on the programme.

SEEC credit level descriptors (2010)

SEEC credit level descriptors have been used to establish the level of the programme and its modules, and to inform the learning outcomes and assessment criteria at level 4 (Cert. HE), level 5 (Dip. HE), and level 6 (BSc).

These credit levels descriptors inform the following areas:

The development of subject specific knowledge and understanding, generic cognitive and intellectual skills, key/transferable skills, and subject specific practical skills.

Teaching, learning and assessment strategies that deliver, ensure and assess the attainment of these levels.

The programme level learning outcomes that are reinforced by the modular learning outcomes, teaching, learning and assessment strategies described in individual module specifications.

Consideration of feedback from stakeholders: schools and colleges, current students, graduates and employers:

An online questionnaire was used to survey the opinions of current students; recent graduates; alumni; and employers / members of biodiversity networks. Local schools

were also contacted via the SCPS to gain further feedback from 16-18 year olds and from teachers. In addition, feedback was gained from current students on the potential distinctive features of the new programme. The data suggest that students/sixth formers prefer titles that explain what the course is about; prefer to see the term science in the title as it confers gravitas; prefer a title that sounds like it is 'doing something'; like the link to Bristol Zoo; like the link to media/film; like the link to conservation technology; like the idea of compulsory 'voluntary' work. This valuable feedback was taken into account when deciding upon the programme title (Wildlife Ecology and Conservation Science) and the content. The programme now includes modules that will be delivered at Bristol Zoo Gardens and has modules specifically on wildlife e.g. Wildlife Ecology; Primate Ecology and Conservation. The Final Year module Contemporary Conservation Science includes modern innovative approaches to conservation such as conservation genetics. An optional Final Year module Wildlife, Film and Media has been created in response to the positive feedback to this proposal.

To ensure that the programme would be fit for purpose and to gain an in-depth knowledge of the needs of employers in this field, key personnel from the Wildfowl and Wetlands Trust (Slimbridge); Somerset Wildlife Trust; Worldwide fund for Nature (WWF-UK); Bristol Zoo Gardens and Bristol City Council were interviewed. This generated invaluable feedback on the attractiveness and usefulness of the programme and highlighted all the skills that were needed to produce a skilled and employable graduate ready to work in this field. All organisations considered that the consultation was an excellent approach to programme development and were extremely helpful in providing ideas for content and offers of work experience opportunities. Common themes emerged from these meetings and so in response to a request for proficiency in Geographical Information systems (GIS), data analysis, scientific writing, use of data bases, field based skills and communication skills there are numerous skills modules at all levels that address these requests e.g. Field Skills; Environmental and Field Techniques; Conservation in Practice; Contemporary Conservation Science; Research Project. All organisations were impressed by the idea of 'built-in' voluntary work and offered work experience opportunities.

A final consultation was held with current students once the programme structure

and module content had been developed sufficiently to be articulated in some detail. Student feedback on the proposal was very positive however, they did make suggestions for module name changes and highlighted a perceived negative response to too many module titles using the term 'skills'. This was taken on board and so, for example, the Level 2 module is now called Environmental and Field Techniques which was given a positive response from students.

Part E: Regulations

Approved to University Regulations and Procedures.