

School of Applied Sciences

Evidence suggests that we are currently living in the midst of a global biodiversity crisis. Species extinction is occurring at a higher rate than at any time in evolutionary history, primarily as a result of human activity. The conservation of biodiversity is therefore one of the major environmental challenges currently facing humanity.

Start Date:

September

Duration:

3 years full-time with 2 x 5 week placements (or 4 years with a 40 week placement); 6 years part-time

UCAS:

CD14

Entry Requirements:

For 2012 entry: 300 tariff points, typically from 3 A-levels or equivalent

For 2013 entry: 300 tariff points, including 100 from one required subject (e.g. B at A-level). BTEC Extended Diploma: DDM

Required subjects:

At least one of the following subjects: Geography, Environmental Science, Biology, Chemistry, Physics, Maths.

Recommended GCSEs:

A minimum of 5 GCSEs grades A* - C including a Science, Maths and English or equivalent qualifications.

If English is not your first language:

IELTS (Academic) 6.5 with minimum 5.5 in each component or equivalent

Contact askBU enquiries service:

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Email: askbuenquiries@bournemouth.ac.uk

Web: www.bournemouth.ac.uk/askbu

Open Days:

To register for an open day log on to:
www.bournemouth.ac.uk/opendays

For more course information:

www.bournemouth.ac.uk/courses/bsewc

Why choose this course?

- Undertake fieldwork in a fantastic variety of local habitats including forests, meadows, heaths and maritime environments
- Wide range of opportunities available to engage in local, national and international cutting-edge field research
- Gain relevant employment skills with a wide range of local and international work placements opportunities.

Course Overview

This course will give you the opportunity to understand this challenge and perhaps make a difference to our future environment.

As pressure on the natural environment intensifies, there is a growing need for skilled professionals in the areas of wildlife protection, biodiversity conservation and ecosystem management.

Wildlife conservation offers a rewarding and exciting career in protecting global bio-diversity. This degree provides people interested in environmental or conservation biology with both an understanding of ecological processes and an appreciation of the wider social and legal context in which conservation operates in practice.

Course Content & Unit Overviews

Year 1

Investigative & Reporting Skills

Providing you with the core skill set necessary for undergraduate study in a science subject, this unit will particularly develop independent learning. By the end of the unit you will have completed a simulated science-based investigation exercise, demonstrating the application of a range of core skills as an investigative scientist.

Topics in Contemporary Science

You will be exposed to a range of contemporary themes in science, either driven by research taking place within the School or by topical science agenda. The unit is delivered by a seminar series covering all aspects of the science relevant to the School of Applied Sciences. Topical or popular issues are examined and the science that underlies them explored.

Practical Skills

The practical and field skills necessary for undergraduate study in a science subject specifically within the fields of archaeology, environment & biological-forensic science will be covered. You will be taught through a series of short courses and self directed learning exercises designed to develop your independent learning skills.

Earth, Environment & Society

Key aspects of our physical environment will be explored in this unit, building an understanding of the way in which these interact and impact the human environment. The unit provides a foundation in Earth Sciences and Physical Geography on which detailed knowledge can be built in the second and third year.

Ecological Conservation

The ecological, human societal and ethical issues which underpin conservation ecology be considered in this unit. You will be introduced to key issues in lectures, and asked to explore them through seminar discussions and fieldwork. You will be asked to consider how these key issues integrate to affect the ecological conservation of a range of case studies.

Biology

The fundamental concepts of biology, including cell biology, molecular biology, anatomy and physiology will be studied in this unit. It will explore the molecular basis of life, physiological processes and the function, structure and regulation of the most important organ systems in

animals. You will also develop core bioscience skills, such as practical ability, data handling, time management and team work through laboratory classes.

Year 2

Applied Geospatial Science

You will develop your expertise and knowledge in the area of Geographic Information Systems (GIS) and geospatial science. The unit aims to provide you with an understanding of the principles underpinning spatial information science and its associated technology. This unit will provide you with the ability to manipulate and interrogate spatial data of various kinds whilst developing expertise in GIS and modelling. Emphasis is placed on data capture, analysis and the application of spatial information science for geographic and environmental decision making.

Ecology & Ecosystems Management

The theoretical principles in ecology and their application to ecosystem management and protection will be explored in this unit. The importance of human prehistoric, historic and current influences on ecosystems will be explored, thus linking natural and cultural heritage.

Environmental Pollution

This unit aims to develop knowledge and understanding of a range of polluting impacts that human activities have on the environment. It will provide you with an overview of the causes of environmental pollution, the harm caused to the environment and the strategies used to both prevent and remediate negative environmental impacts.

Field Research: Environment

By the end of this unit you will have developed your ability to carry out field based research, appropriate to this course. You will develop an understanding and ability to formulate field research problems, design appropriate research strategies, gather and analyse data methodically and appropriately, report the results and manage the process effectively.

Evolution & Wildlife Conservation

Providing you with an understanding of the factors involved in the evolution and long term conservation of species, this unit considers how natural processes and humans have interacted to determine large-scale patterns of biodiversity and evolutionary change.

Option units: choose one of the following:

Environmental Archaeology & Paleoecology

The aim of this unit is to introduce you to the principles and practice of Environmental Archaeology and palaeoenvironmental reconstruction. The unit will provide an overview of site formation processes, the types of environmental evidence encountered in the archaeological record, and the appropriate sampling strategies used to recover them. Examples of the interpretation of environmental evidence will be provided through archaeological case studies. The final lecture will demonstrate how many of the environmental proxies used in Environmental Archaeology are transferable to forensic sciences, focusing on the specific example of palynology.

Marine Geography

The geography of the marine environment will be covered in this unit through consideration of the key resources found in marine and coastal environments and their management frameworks, including key factors affecting marine and coastal biodiversity. An important element of this unit is the collection and interpretation of marine and coastal data.

Year 3

Wildlife Behaviour & Habitat Conservation

The aim of this unit is to enable you to appreciate how wildlife behaviour affects the success of habitat management for conservation and to develop the skills required to evaluate ecological data in the context of conservation ecology.

Independent Research Project

The Independent Research Project provides you with an opportunity to gain experience of research in a topic of your choice relevant to your degree and to demonstrate your ability to report that research. Such experience is considered essential for those students interested in pursuing academic and/or professional research at a higher level of responsibility and achievement.

Option units: choose three of the following:

Earth Surface Processes & Landforms

Geomorphological research will be introduced, using selected case studies thereby developing your ability to design and execute research projects and undertake professional practice within geomorphology.

Freshwater Resource Management

The theory and practice for issues relating to the conservation and management of freshwater resources will be covered in this unit. It covers a range of aspects of freshwater resource management including sustainable development, conservation and key issues from a planning policy and decision making perspective. By providing a framework for you to actively make managerial decisions, the unit enables problems to be identified, analysed and solutions to be proposed including the promotion of sustainable communities and public participation in the planning process and environmental assessment.

Landscape Patterns & Processes

This unit aims to provide you with an understanding of the principles of landscape ecology, current methods of landscape assessment, and strategic and practical managerial techniques available for conserving semi-natural, working, and designed landscapes. Successful completion of the unit will enable you to recognise, assess and analyse changes in landscape pattern resulting from natural processes and human activities, and to understand how such patterns influence key processes influencing biodiversity and the provision of environmental services to people. You will also develop an understanding of the principles of managing natural resources at the landscape scale.

Marine Conservation

This unit aims to develop practical knowledge and understanding of the conservation and management of marine biodiversity, fisheries and underwater heritage resources. You will also examine the formulation of policy and the legal processes and mechanisms that are applied to the conservation of marine and coastal environments.

Primate Behavioural Ecology

The way in which primate behaviour can be interpreted will be explored from an evolutionary viewpoint, and how human and non-human primates' behavioural strategies are adapted to the environment (social and ecological) in which they live. The unit is aimed at stimulating discussion and the critical analysis of theories.

Emergence & Extinction: Reconstructing Pliocene & Pleistocene Environments

This unit aims to provide you with an understanding of past and current theories surrounding the nature and effects of environmental change during the last 10 million years. Various lines of evidence are considered including

geomorphology, palynology, ice cores, fossil flora and fauna and genetics. The course will include aspects of evolutionary theory and will consider theories relating both the emergence and extinction of species to wider environmental change. Consideration will also be given to differing approaches to understanding broad ecological changes and to competing hypotheses regarding both individual and mass extinctions.

Advanced Environmental Law & Planning

In a complex world, functioning legal rules and other governance tools are mainstays of the movement towards environmental protection, security and sustainable development. Laws on permitting, standards, compliance and enforcement mechanisms, voluntary instruments, liability regimes and citizens' environmental rights all play a part in translating policies, goal and social objectives into reality. In this unit we aim to critically consider the dynamics of the legal and policy applications of planning and environmental law and its role in environmental protection.

Placement

The placement provides you with the experience of how an organisation operates, as well as an opportunity to enhance your personal development and future employability. The placement plays an important role within the degree structure, complementing the academic course and allowing you to begin to put theory and competencies into practice as well as develop new skills.

Fieldwork

Fieldwork and site visits form an essential part of this course as fieldwork provides excellent opportunity for you to consolidate your learning through practical application. We make extensive use of our unrivalled local environment, which has the greatest levels of biodiversity in Britain and includes the UNESCO Dorset and East Devon World Heritage Coast and the New Forest. Students learn through direct experience in the field how to investigate, understand and conserve wildlife in habitats ranging from sand dunes and coastal cliffs to rivers, forests meadows and heathlands.

Students who wish to develop their field ecology skills further will be welcome to participate in one or more of several ongoing projects set up between staff teaching on this degree course and local wildlife organisations. Full training is given for free and students are able to gain skills while directly helping wildlife conservation. Projects include surveys of birds, deer, fish, butterflies, bees, and

small mammals such as dormice, investigations of how best to restore heathlands and forests and understanding the effects of invasive species and global warming on shore communities.

Resources and Facilities

We have dedicated laboratories that have a comprehensive range of analytical, technical and experimental facilities, including state of the art field equipment, extensive reference collections of materials, artefacts and both human and animal skeletons to give you vital hands-on experience.

Conservation Ecology & Environmental Science Group

The School of Applied Sciences is involved in research and knowledge exchanged across the globe and has close links with both national and international employers. These links ensure that much of the research undertaken is directed at tackling problems of recognised significance to commerce and industry, as well as to the public sector, all of whom demand innovative meaningful research. Specialist interests within the Conservation Ecology & Environmental Science Group include the ecology of birds, fish, invertebrates, mammals and plants, and encompass terrestrial, freshwater and marine environments. The use of spatial analysis and modelling techniques, supported by GIS and remote sensing, underpins much of our research.

Research generated by the Group informs and ensures that courses within the School remain at the cutting edge, meeting both national and international demand for professional environmental graduates.

Career Opportunities

We have an excellent employment record. Employment opportunities exist in a wide range of organisations including wildlife conservation organisations, government agencies, local authorities, ecological, environmental and landscape consultancies and multi-national companies, as well as within the voluntary sector.

The University reserves the right to introduce changes to the information given, including the addition, withdrawal, relocation or restructuring of courses.