



Module Specification

Wildlife Ecology

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Part 1: Information

Module title: Wildlife Ecology

Module code: USSK5H-30-2

Level: Level 5

For implementation from: 2021-22

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Applied Sciences

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module will introduce you to adaptations that allow plants and animals to exist and interact and behave within their environments and niche habitats.

Outline syllabus: For plants you will examine how their evolutionary adaptations to temperature, water availability, nutrient acquisition, salinity and different light levels dictate their overall morphology and specialised biochemistry and thus, their ability to thrive in almost all the biomes on the planet. You will examine why the tropics are so abundant in plant species and how at the other extremes some plants manage to survive in either the heat of the deserts or the cold of the high alpine environments. The module will allow you to discover why some plants have become specialised carnivores and parasites and how the evolution of plants' symbiosis with diazo-bacteria allowed them to conquer the terrestrial biomes. You will examine the fundamentals of water homeostasis and how plant height and size is limited by a combination of multiple environmental factors. The module will also introduce you to concepts in plant pathology and their interactions with disease causing organisms. Ultimately you should be able to consider the aerial and subterranean physiology and photosynthetic adaptations of plants that are required for them to exist anywhere on earth and the limitations of the many environments to which they are exposed.

For the animal section of the module you will examine how metabolic and physiological adaptations and their employment in different ecological strategies have evolved in animals allowing them to operate and thrive in a multitude of different niche habitats. You will examine the importance of warmth and food to animal survival and how metabolic rate varies with body size. The physiological and behavioural adaptations that allow animals to survive in different temperatures will also be examined. You will learn how different animals overcome the problems of locomotion, examining, for example, the problems of swimming in water and flying in air. The module will also introduce you to the concepts of animal behaviour examining, for example, communication and signalling, biological rhythms, circadian and circannual cycles, habitat selection; cost benefit approaches with regard to optimal foraging theory, sexual selection and social behaviour. The module will also introduce you to concepts in animal interactions by, for example, examining coral reef systems.

At L2 this module develops a number of key graduate skills. Written communication and the ability to present and discuss a critically analysed set of data in a journal style report both develops and evidences professional communication skills and the

use of computer based technology to do so and give students the opportunity to be innovative and forward looking in their approach. Making an ecologically based taxonomic collection and considering anthropomorphic impact on the topics learned throughout the module allows the students to gain a global perspective of the subject matter and successful participation in the components of the module promotes their emotional intelligence.

Part 3: Teaching and learning methods

Teaching and learning methods: See outline syllabus and assessment strategy.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Comprehend the physiological and biochemical adaptations of plants to a range of environmental factors that are required to enable them to undertake efficient photosynthesis and obtain sufficient nutrients, so allowing them to thrive in the many biomes of the planet.

MO2 Discuss the energetic and metabolic requirements of animals living in different environments and the physiological and ecological strategies they adopt in order to operate and survive in different ecosystems.

MO3 Discuss the common underlining principles that determine animal behaviour and describe the importance of principles of behavioural ecology to survival.

MO4 Undertake practical work to record scientific data and present, analyse and interpret these data.

MO5 Demonstrate expertise in the collection of ecological data and the identification of organisms.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussk5h-30-2.html) via the following link <https://uwe.rl.talis.com/modules/ussk5h-30-2.html>

Part 4: Assessment

Assessment strategy: The assessment strategy has been designed to support and enhance the development of both subject-based and employability skills, whilst ensuring that the modules learning outcomes are attained, as described below.

The coursework comprises 2 elements. The first is a practical report which is based on the laboratory practical series. This report requires the detailed recording of data followed by analysis, interpretation and discussion of these data. The recording and analysis of data is a vital skill for both conservation and biological sciences students and consequently this assessment can be described as an assessment to enhance employability and learning.

The second element is a taxonomic collection. Students will be given advice on appropriate techniques for collecting, identifying and displaying their selected taxon. Through this assessment students will learn how to use taxonomic keys, many of which are now available online, to identify organisms. The ability to identify organisms is a highly sought after graduate skill.

Component A is an online exam with a 24 hour window for submission. This assessment will test a range of the learning outcomes and will provide a valuable learning experience through recalling and demonstrating knowledge which will be of benefit when progressing to final year modules.

Formative feedback is available to students throughout the module through group discussions, practical classes and in tutorials. Students are provided with formative

feed-forward for their exam through a revision and exam preparation session prior to the exam and through the support materials supplied through Blackboard.

Assessment components:

Examination (Online) - Component A (First Sit)

Description: Online Exam (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report - Component B (First Sit)

Description: Written report of a laboratory practical (2000 words)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO4

Practical Skills Assessment - Component B (First Sit)

Description: Taxonomic collection

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO5

Examination (Online) - Component A (Resit)

Description: Online exam (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Report - Component B (Resit)

Description: Written report of a laboratory practical (2000 words)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested:

Practical Skills Assessment - Component B (Resit)

Description: Taxonomic collection

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Wildlife Ecology and Conservation Science [Sep][FT][Frenchay][4yrs] MSci 2020-21

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Frenchay][5yrs]
MSci 2019-20

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Frenchay][6yrs]
MSci 2019-20

Biological Sciences [Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Biological Sciences [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2020-21

Biological Sciences [Sep][SW][Frenchay][5yrs] MSci 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2019-20

Biological Sciences {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Biological Sciences {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Biological Sciences {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2019-20

