



Module Specification

Ecology and Ecosystems

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Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	3
Part 4: Assessment.....	4
Part 5: Contributes towards	6

Part 1: Information

Module title: Ecology and Ecosystems

Module code: USSKNL-30-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

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: Ecology and Ecosystems focuses on population dynamics including population regulation, community ecology and succession, global biodiversity and the factors affecting its distribution.

Outline syllabus: Population and evolutionary genetics:

Gene flow in populations and restrictions to flow that cause isolation and speciation. Hardy-Weinberg principle, genetic drift and mutations. Adaptation of species to changes in environmental conditions.

Human impacts on ecosystems:

General causes of habitat destruction and habitat disturbance including pollution, climate change, introduced species and over-exploitation. In addition, habitat management, restoration and creation and ecological impacts of introduced species are also covered.

Ecosystem Protection:

Concepts of wildlife protection through land protection; types of land protection at a national and international level; the effectiveness of current land protection policy in the UK and internationally.

Part 3: Teaching and learning methods

Teaching and learning methods: See assessment strategy.

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

MO1 Apply ecological principles to the study of population dynamics

MO2 Communicate how population genetics influences adaptations and evolution

MO3 Evaluate the relationship between human activities and ecosystems

MO4 Evaluate the effectiveness of current ecosystem management and protection policies in conserving wildlife and ecosystem function

MO5 Obtain, record and interpret data using appropriate techniques in the field and the access and analysis of secondary data sources

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 210 hours

Face-to-face learning = 90 hours

Total = 300

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

Part 4: Assessment

Assessment strategy: The assessment is designed to test students' breadth and depth of understanding of ecological principles. In addition, the assessment provides a framework for students to extend their knowledge and practical skills in relation to human activities and ecosystem protection through an independent research project.

Assessment Task 1 consists of a production of a notebook of fieldwork research of specific habitats / communities, supported by individual reflection and critical appraisal.

Assessment Task 2 consists of an independent research project (2500 words) to explore human impacts on a specified ecosystem. This is an opportunity for students to research scientific findings and generate an in-depth analysis of impact of a specific environmental concern (e.g. microplastics in marine ecosystems).

Assessment Task 3 involves the creation of an educational leaflet (double sided A4) covering the area of population and evolutionary genetics.

Students have the opportunity to informally discuss their work with an academic member of staff during timetabled feed forward sessions, or remotely using Blackboard, e-mail, skype, or other social media vehicles.

Assessment tasks:

Written Assignment (First Sit)

Description: Fieldwork notebook

Weighting: 30 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5

Report (First Sit)

Description: Independent research project (2500 words)

Weighting: 49 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4

Written Assignment (First Sit)

Description: Educational leaflet for lay audience (double sided A4)

Weighting: 21 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2

Written Assignment (Resit)

Description: Fieldwork notebook

Weighting: 30 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5

Report (Resit)

Description: Independent research project (2500 words)

Weighting: 49 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4

Written Assignment (Resit)

Description: Educational leaflet for lay audience (double sided A4)

Weighting: 21 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Biological Laboratory Sciences [UCW] FdSc 2022-23