



Module Specification

Global Forest Systems

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Part 1: Information

Module title: Global Forest Systems

Module code: USSKN6-15-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Life on Earth 2023-24

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: Students must have taken Life on Earth (USSK5C-30-1).

Features: Not applicable

Educational aims: In this module you will examine the structure and function of global forest systems in detail, and explore how human activity is impacting on them, both directly and indirectly. We will explore the roles that forests play in terms of providing key ecosystem services such as biodiversity protection, carbon storage,

climate regulation, and the production of timber and other forest products, and we will evaluate different strategies for their sustainable management.

Outline syllabus: You will cover:

Introduction to trees and forests: Range of different forest biomes and key features of different tree families; key tree physiological processes including water relations, nutrient cycling, photosynthesis and reproduction.

Forest ecology: Forest structures and their impact on other forest organisms; niche differentiation and adaptation strategies of forest plants and animals; native, naturalised and exotic species; concepts of wildwood and ancient woodland; the role of large herbivores in woodland structure.

Nutrient Cycling and Climate Change: Nutrient cycling in undisturbed forest ecosystems; carbon sequestration in relation to tree species and management; possible impacts of climate change on forest ecosystems.

Tree Health and Disease: concepts of forest and tree health; causes of poor health in trees including air pollution, soil conditions, pests and diseases; case studies in contemporary tree health issues (eg. ash dieback, oak decline, effects of ozone on trees).

Forest Management and Protection: methods of forest management including clear felling, selection felling, coppicing and pollarding. Sustainable methods of timber production; Non-timber forest products and their use by indigenous peoples; tree and forest protection at national and global levels.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled contact time is structured around a series of lectures that introduce the key concepts, identify current levels of understanding and pin-point areas of scientific uncertainty. Theory is under-pinned

by case studies drawn from different systems from around the world. Lectures will be supported by a series of workshops and seminars, including the use of 'flipped classroom' where appropriate, that will allow more in-depth analysis and discussion around key concepts. Students will be expected to undertake a significant amount of preparation for these sessions, including undertaking guided reading, and web-based research. Learning will be enhanced by field visits which will allow students to explore first-hand aspects of their learning, and to interact with experts and practitioners in the field. Revision will be embedded in the workshop sessions, which will offer opportunities to practice past exam questions.

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

MO1 Describe and critically assess forest ecosystems in terms of their biodiversity, nutrient cycling and energy balances, and their ability to deliver key ecosystem services

MO2 Critically evaluate a range of forest management and production systems in terms of their long term sustainability, and their robustness and resilience to climate change and other forms of pollution, and to pests and diseases

MO3 Research and evaluate in detail a specific forest system in terms of its contribution to sustainable resource production and ecosystem services

MO4 Collate, analyse, interpret and present data using advanced analytical techniques, and present these data to a target audience

MO5 Critically evaluate research in forest systems at the cutting edge of the subject

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/usskn6-15-3.html) via the following link <https://uwe.rl.talis.com/modules/usskn6-15-3.html>

Part 4: Assessment

Assessment strategy: The assessment for this module is designed to test the breadth and depth of students' knowledge, as well as their ability to analyse, synthesize and summarise information critically.

The online examination provides students with the opportunity to demonstrate their knowledge and understanding of the key concepts and paradigms associated with the subject matter, to use case studies and other evidence critically to support their arguments, and to make evaluations of possible sustainable futures for forest systems.

The 2,000 word written case study provides the opportunity for the student to complete an in-depth analysis of a forest system in terms of an agreed, contemporary environmental issue.

Assessment tasks:

Examination (Online) (First Sit)

Description: Online examination (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO5

Written Assignment (First Sit)

Description: 2000 word written assignment

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Examination (Online) (Resit)

Description: Online examination (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO5

Written Assignment (Resit)

Description: 2000 word written assignment

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Biological Sciences [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Wildlife Ecology and Conservation Science [Sep][FT][Frenchay][4yrs] MSci 2021-22

Environmental Science [Sep][FT][Frenchay][4yrs] MSci 2021-22

Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2021-22

Wildlife Ecology and Conservation Science [Sep][FT][Zoo][3yrs] BSc (Hons) 2021-22

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

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

Wildlife Ecology and Conservation Science [Sep][SW][Frenchay][5yrs] MSci 2020-21

Environmental Science [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Frenchay][5yrs]
MSci 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Environmental Science [Sep][SW][Frenchay][5yrs] MSci 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Wildlife Ecology and Conservation Science [Sep][SW][Zoo][4yrs] BSc (Hons) 2020-
21

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Zoo][4yrs] BSc
(Hons) 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

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

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

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

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

Environmental Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Zoo][5yrs] BSc
(Hons) 2019-20