



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Global Forest Systems		
Module Code	USSKN6-15-3	Level	Level 6
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	Life on Earth 2020-21		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Overview:</b> Students must have taken Life on Earth.</p> <p>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.</p> <p><b>Educational Aims:</b> See Learning Outcomes</p> <p><b>Outline Syllabus:</b> You will cover:</p> <p>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.</p> <p>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.</p>

## STUDENT AND ACADEMIC SERVICES

**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.

**Teaching and Learning Methods:** Scheduled contact time is structured around a series of on-line 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 on-line 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, textual and web-based research. Learning will be enhanced by field visits where possible, 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.

### Part 3: Assessment

The Assessment for this module is designed to test the breadth and depth of students' knowledge, as well as their ability to analyse, synthesise and summarise information critically, including published research and data from the 'grey' literature. The 24-hour on-line 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 2,500 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, for example carbon storage and emissions offsetting, biodiversity conservation, sustainable supply of timber or non-timber products, impacts of climate change, or management for disease resistance and resilience. By choosing a specific forest system and environmental issue to focus on, students will be able to tailor their study to fit their specific areas of interest, and this also helps ensure the individual nature of each piece of work. Students will be expected to use a range of advanced research methods including: critical review of published research; 'mining' and analysis of secondary data; scenario-testing; expert and practitioner opinion.

Opportunities for formative assessment and feedback are built into the workshop and seminar series, through discussion of current research, the evaluation of research methods, and review of past exam papers.

All work is marked in line with the Department's Generic Assessment Criteria and conforms with university policies for the setting, collection, marking and return of student work. Where an individual piece of work has a specific assessment criteria, this is supplied to the students when the work is set.

First Sit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		40 %	2500 word written assignment
Examination (Online) - Component A	✓	60 %	Online examination (24 hours)

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Written Assignment - Component B		40 %	2500 word written assignment
Examination (Online) - Component A	✓	60 %	Online examination (24 hours)

Part 4: Teaching and Learning Methods		
Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:	
	<b>Module Learning Outcomes</b>	<b>Reference</b>
	Describe and critically assess forest ecosystems in terms of their biodiversity, nutrient cycling and energy balances, and their ability to deliver key ecosystem services	MO1
	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	MO2
	Research and evaluate in detail a specific forest system in terms of its contribution to sustainable resource production and ecosystem services	MO3
	Collate, analyse, interpret and present data using advanced analytical techniques, and present these data to a target audience	MO4
	Critically evaluate research in forest systems at the cutting edge of the subject	MO5
Contact Hours	<b>Independent Study Hours:</b>	
	Independent study/self-guided study	117
	<b>Total Independent Study Hours:</b>	117
	<b>Scheduled Learning and Teaching Hours:</b>	
	Face-to-face learning	33
	<b>Total Scheduled Learning and Teaching Hours:</b>	33
	<b>Hours to be allocated</b>	150
	<b>Allocated Hours</b>	150
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p><a href="https://uwe.rl.talis.com/index.html">https://uwe.rl.talis.com/index.html</a></p>	

**Part 5: Contributes Towards**

This module contributes towards the following programmes of study:

Environmental Science [Sep][FT][Frenchay][4yrs] MSci 2018-19

Wildlife Ecology and Conservation Science [Sep][FT][Zoo][3yrs] BSc (Hons) 2018-19

Wildlife Ecology and Conservation Science [Sep][FT][Frenchay][4yrs] MSci 2018-19

Biological Sciences [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19

Environmental Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19

Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2018-19