



**CORPORATE AND ACADEMIC SERVICES**


**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	Ecology and Ecosystem Protection				
Module Code	USSK5F-30-2	Level	2	Version	1
Owning Faculty	Health and Life Sciences	Field	Department of Biological, Biomedical and Analytical Sciences		
Contributes towards	BSc Wildlife Ecology and Conservation Science BSc Environmental Science BSc Biological Sciences				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	USSK5C-30-1 Life on Earth	Co- requisites	None		
Excluded Combinations	None	Module Entry requirements			
Valid From	September 2013	Valid to	September 2019		

<b>CAP Approval Date</b>	19 <sup>th</sup> June 2013
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> <li>describe in detail the ecological principles that have shaped the living world (assessed in Component A);</li> <li>apply their understanding of ecological principles to real world problems of ecosystem management across a range of habitat types in the British Isles (assessed in component B1 and B2);</li> <li>recommend appropriate ecosystem management regimes for a range of habitat types, including techniques for monitoring and evaluating their effectiveness (assessed in component B2);</li> <li>evaluative the effectiveness of current ecosystem protection in conserving wildlife and ecosystem function (assessed in component A);</li> <li>obtain, record and interpret data using appropriate techniques in the field and laboratory, and the access and analysis of secondary data sources (assessed in component B1).</li> </ul>
Syllabus Outline	This module introduces the students to the basic principles of ecology, and then explores the application of these principles in relation to habitat and ecosystem management and protection.

	<p><i>Principles of ecology:</i> Food chains and webs, energy flows and nutrient cycles; principles of population dynamics including population regulation; mutualism, competition, herbivory, predator-prey relationships; intra- and inter-specific competition and niche theory; community ecology and succession; global biodiversity and the factors affecting its distribution; major biomes. Concepts of naturalness in relation to ecosystems.</p> <p><i>Human impacts on ecosystems:</i> General causes of habitat destruction and habitat disturbance including pollution, climate change, introduced species and over-exploitation. Effects of habitat disturbance especially pollution. Climate Change – evidence for impacts on ecosystems including phenology and range changes; possible future impacts on global biomes. Restoration of degraded habitats and creation of new habitats including translocation. Ecological impacts of introduced species.</p> <p><i>Ecosystems management:</i> The structure and function of a range of habitats in Britain including woodland, grassland, heathland, wetlands and coastal habitats. Current threats and appropriate management strategies. Management plans in principle and practice.</p> <p><i>Ecosystem Protection:</i> 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.</p>
Contact Hours	<p><b>Scheduled learning</b> Students can expect to spend 36 hours in interactive lectures, and 36 hours in practicals/workshops/field visits. Teaching is organised on an alternating week pattern so that practicals, field visits and workshops can be linked with the theory delivered through lectures, to support and extend student learning.</p> <p><b>Independent learning</b> Students are expected to spend 228 hours on independent learning tasks.</p>
Teaching and Learning Methods	<p>A variety of learning approaches are used. Practical sessions provide experience of relevant laboratory and field techniques. Practical and workshop sessions provide opportunities for data handling and interpretation, problem-solving, group working and discussions with academic staff. Interactive lectures provide contexts and overviews of topics to guide student-centred learning. Student learning is supported by audio-visual material, specialist software packages, paper based worksheets, and computer modelling exercises. The University's on-line Learning Environment Blackboard is used to enhance the students' learning experience, including links to relevant on-line resources and background reading, facilities for interaction and coordination during group work (eg. wikis, blogs), and communication between tutors and students.</p> <p><b>Scheduled learning</b> includes: Interactive lectures, practical classes and workshops; fieldwork; external visits.</p> <p><b>Independent learning</b> includes hours engaged with essential reading, assignment preparation and completion.</p>
Key Information Sets Information	<p>Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are</p>

<i>Number of credits for this module</i>				30	
<b>Hours to be allocated</b>	<b>Scheduled learning and teaching study hours</b>	<b>Independent study hours</b>	<b>Placement study hours</b>	<b>Allocated Hours</b>	
300	72	228	0	300	

The table below indicates as a percentage the total assessment of the module which constitutes a -

**Written Exam:** Unseen written exam  
**Coursework:** Written report, portfolio

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:

Written exam assessment percentage	50%
Coursework assessment percentage	50%
	100%

**Reading Strategy**

All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

This guidance will be available either in the module handbook, via the module information on Blackboard or through any other vehicle deemed appropriate by the module/programme leaders.

**Indicative Reading List**

*The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms.*

Books

The most recent editions of:

Ausden, M. *Habitat management for conservation: a handbook of techniques*. Oxford University Press, Oxford.

Falk, D.A. *Foundations of Restoration Ecology*. Island Press, Washington DC.

Krebs, C.J. *Ecology: the experimental analysis of distribution and abundance*.

	<p>Benjamin Cummings, San Francisco.</p> <p>Newman, E.I. <i>Applied Ecology and Environmental Management</i>, Blackwell Scientific.</p> <p>Sutherland, W.J. &amp; Hill, D.A. <i>Managing habitats for conservation</i>. Cambridge University Press.</p> <p>Townsend, C.R., Harper, J.L. &amp; Begon, M. <i>Essentials of ecology</i>. Blackwell Science</p> <p>Wheater, C.P., Bell, J.R. &amp; Cook, P.A. <i>Practical Field Ecology</i>. Jon Wiley &amp; Sons, e-book available on line.</p> <p><u>Journals</u></p> <ul style="list-style-type: none"> <li>Journal of Applied Ecology</li> <li>Biological Conservation</li> <li>British Wildlife</li> <li>Trends in Ecology and Evolution</li> </ul>
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<b>Part 3: Assessment</b>	
<b>Assessment Strategy</b>	<p>The assessment is designed to test the students' breadth and depth of understanding of ecological principles, and how these underpin key areas of ecosystem protection in practice. In addition the assessment provides a framework for students to extend their knowledge and practical skills in relation to ecosystem management, particularly through the compilation of a management plan, which is a key tool in practical ecosystem management.</p> <p>The 2 hour exam tests a student's factual ecological knowledge through a series of multiple choice questions, and well as exploring their depth of understanding of key ecological concepts, and of ecosystem protection, with a number of longer-answer questions.</p> <p>The coursework is divided into two, linked elements which together form a Management Plan for a specified ecosystem. Component B1 comprises the compilation of the factual components of the Management Plan, which involves the student in a range of activities including: acquisition of information from a wide range of on-line and grey literature sources; analysis and interpretation of primary and secondary data; timetabled fieldwork including Phase One Habitat Survey and surveys of specific habitats/communities, supported by individual reflection and critical appraisal; and the production of a consultant's report. The majority of this work will be undertaken in a group context.</p> <p>The second element of coursework (B2) is carried out individually and builds on the site's factual information, to provide detailed objectives and prescriptions for the management of the habitat. This is informed by feedback from B1, but students also have the opportunity to informally discuss their plans with an academic member of staff during timetabled feed forward secessions, or remotely using Blackboard, e-mail, skype, or other social media vehicles.</p> <p>In addition to the above, opportunities for formative assessment and feedback are built into the practicals and workshops, and through the review of past exam papers.</p> <p>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.</p>

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Identify final assessment component and element			
% weighting between components A and B (Standard modules only)		<b>A:</b>	<b>B:</b>
		<b>50%</b>	<b>50%</b>
<b>First Sit</b>			
<b>Component A</b> (controlled conditions) <b>Description of each element</b>		<b>Element weighting</b> <b>(as % of component)</b>	
1. Exam (2 hours)		100%	
<b>Component B</b> <b>Description of each element</b>		<b>Element weighting</b> <b>(as % of component)</b>	
1. Portfolio based on group work (1500 words)		40%	
2. Written report (2500 words)		60%	

<b>Resit (further attendance at taught classes is not required)</b>			
<b>Component A</b> (controlled conditions) <b>Description of each element</b>		<b>Element weighting</b> <b>(as % of component)</b>	
1. Exam (2 hours)		100%	
<b>Component B</b> <b>Description of each element</b>		<b>Element weighting</b> <b>(as % of component)</b>	
1. Written report (4000 words)		100%	
If a student is permitted an <b>EXCEPTIONAL RETAKE</b> of the module the assessment will be that indicated by the Module Description at the time that retake commences.			