




MODULE SPECIFICATION

Part 1: Information			
Module Title	Environmental Sciences		
Module Code	USSKND-15-1	Level	1
For implementation from	September 2018		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Health and Applied Sciences	Field	Applied Sciences
Department	Applied Sciences		
Contributes towards	FdSc Biological Laboratory Sciences		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>This module will cover the following topics within the area of environmental science:</p> <p><u>Introduction to ecology</u>: introduction to ecological principles, such as food chains and webs, essential nutrients, symbiosis, mutualism, intra- and inter-specific competition and niche theory. Components of ecosystems: biotic and abiotic, trophic levels, energy flows and nutrient cycles.</p> <p><u>Earth's processes</u>: the study of the Earth's structures, materials and processes. The chemical and physical composition of the lithosphere, hydrosphere, atmosphere and biosphere. The processes operating within and between these spheres and their interconnectivity. The role of biogeochemical cycles in maintaining ecosystem structure and function.</p> <p><u>Principles of organism taxonomy and interactions between various kingdoms</u>: classification and key features of plant, animal and microorganism groups; interactions and relationships between plant, animal and microorganisms in ecological systems.</p> <p><u>Sampling strategies and data collection techniques</u>: obtaining, recording and interpreting data using appropriate techniques in the field and laboratory. Introduction to statistics for biology.</p> <p>This module aims to deliver specialist knowledge through taught lectures, inductive tutorials, seminars and practical sessions. This will promote application of acquired knowledge, analytical and problem-solving skills. Student learning will be further supported through both UCW and UWE E-Learning Environments, with provision of materials and activities to guide independent study.</p> <p>Independent learning includes hours engaged with essential reading, case study preparation, assessment preparation and assignment completion.</p>

Part 3: Assessment		
<p>The assessment strategy has been designed to support and enhance development of subject-based knowledge and practical skills, whilst ensuring that the learning outcomes are achieved.</p> <p>Investigative report: students will complete a 2000 word report investigating Earth systems and ecology within a defined geographical area. This assessment will provide a valuable learning experience through independent research of published literature and development of academic writing style.</p> <p>Poster presentation: a group poster presentation on a practical ecological investigation, including data presentation and statistical analysis.</p> <p>Opportunities for formative assessment and feedback are built into teaching and practical sessions, through discussion and evaluation of current research. All work is marked in line with the UWE generic assessment criteria and conforms to university policies for the setting, collection, marking and return of student work. Assessments are described in the module handbook that is supplied at the start of module.</p>		
Identify final timetabled piece of assessment (component and element)	Component B	
% weighting between components A and B (Standard modules only)	A:	B:
	30	70
First Sit		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Group poster presentation	100	
Component B Description of each element	Element weighting (as % of component)	
1. Investigative report (2000 words)	100	
Resit (further attendance at taught classes is not required)		
Component A Description of each element	Element weighting (as % of component)	
1. Poster Presentation	100	
Component B Description of each element	Element weighting (as % of component)	
1. Investigative report (2000 words)	100	
Part 4: Teaching and Learning Methods		
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> • Describe the Earth's structure and interactions between Earth's spheres (B) • Explain key ecological principles (A, B) • Discuss the roles and interactions of plants, animals and microbes in ecological systems (B) • Collect, record and interpret data using appropriate techniques in the field or/and laboratory (A) 	

	<ul style="list-style-type: none"> Work within a team and present experimental data in a group poster presentation format (A) Communication. (A) 																				
<p>Key Information Sets Information (KIS)</p> <p>Contact Hours</p> <p>Total Assessment</p>	<p><u>Key Information Set - Module data</u></p> <p>Number of credits for this module 15</p> <table border="1" data-bbox="454 439 1227 633"> <thead> <tr> <th>Hours to be allocated</th> <th>Scheduled learning and teaching study hours</th> <th>Independent study hours</th> <th>Placement study hours</th> <th>Allocated Hours</th> </tr> </thead> <tbody> <tr> <td>150</td> <td>60</td> <td>90</td> <td>0</td> <td>150</td> </tr> </tbody> </table> <p style="text-align: right;"></p> <p>The table below indicates as a percentage the total assessment of the module which constitutes a;</p> <p>Written Exam: Unseen or open book written exam Coursework: Written assignment or essay, report, dissertation, portfolio, project or in class test Practical Exam: Oral Assessment and/or presentation, practical skills assessment, practical exam (i.e. an exam determining mastery of a technique)</p> <table border="1" data-bbox="601 1010 1297 1240"> <thead> <tr> <th colspan="2">Total assessment of the module:</th> </tr> </thead> <tbody> <tr> <td>Written exam assessment percentage</td> <td>0%</td> </tr> <tr> <td>Coursework assessment percentage</td> <td>70%</td> </tr> <tr> <td>Practical exam assessment percentage</td> <td>30%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </tbody> </table>	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	150	60	90	0	150	Total assessment of the module:		Written exam assessment percentage	0%	Coursework assessment percentage	70%	Practical exam assessment percentage	30%		100%
Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours																	
150	60	90	0	150																	
Total assessment of the module:																					
Written exam assessment percentage	0%																				
Coursework assessment percentage	70%																				
Practical exam assessment percentage	30%																				
	100%																				
Reading List	<p>The following book is recommended as it covers most of the module material at an appropriate level.</p> <ul style="list-style-type: none"> Begon, M., Harper, J.L. & Townsend, C.R. Ecology: individuals, populations and communities. Blackwell Scientific Publications, Cambridge. <p>Extensive notes will be provided via blackboard on the scientific topics. Links to useful and credible websites will also be provided.</p> <p>The students are also advised to consult the basic scientific texts in UCW, Frenchay and Glenside libraries, of which the following is a representative sample:</p> <p>The latest editions of:</p> <ul style="list-style-type: none"> Brooker, R.J. and co-authors Biology, McGraw-Hill, New York. Campbell, N.A, Reece, J.B & Urry, L. Biology, Cummings, San Francisco. Mason, K.A., Losos, J.B., Singer, S., Raven, P.H., Johnson, G.B. Biology. McGraw-Hill, New York. Sadava, D. and co-authors <i>Life: The Science of Biology</i>, Sinauer Associates, Sunderland, MA. <p><u>Further Reading</u></p> <p>The following texts are recommended as further reading. However, students are not recommended to purchase these unless they intend taking further, more specialised modules in these topics later in their degree programme.</p> <p>The most recent editions of:</p>																				

- Krukoniš G & Barr T. *Evolution for Dummies*. Wiley USA. *e-book: full text available online.*
- Prescott, Harley & Klein *Microbiology* Published by McGraw Hill.
- Smith A. *Plant Biology*, Garland Science
- Schmidt-Nielsen, K. *Animal physiology: adaptation and environment*. Cambridge University Press, Cambridge.
- Willmer, P., Stone, G. & Johnston, I. *Environmental Physiology of Animals*. Blackwell Scientific Ltd. Oxford.

The following journals may also include relevant material and are available through the UWE Library:

- Trends in Ecology and Evolution
- Nature

FOR OFFICE USE ONLY

First SUVP Approval Date	17/5/2018			
Revision Approval Date		Version	1	APDG approved 26/1/2018