MODULE SPECIFICATION

Part 1: Information			
Module Title	Environmental Sciences		
Module Code	USSKND-15-1	Level	1
For implementation from	September 2020		
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, compulsory		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

This module will cover the following topics within the area of environmental science:

Introduction to ecology: 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.

Principles of organism taxonomy and interactions between various kingdoms: classification and key features of plant, animal and microorganism groups; interactions and relationships between plant, animal and microorganisms in ecological systems.

Sampling strategies and data collection techniques: obtaining, recording and interpreting data using appropriate techniques in the field and laboratory. Introduction to statistics for biology.

This module aims to deliver specialist knowledge through taught lectures, tutorials, seminars, fieldwork and practical sessions. This will promote application of acquired knowledge, analytical and problem-solving skills.

Generic Graduate Skill	*Specific strand (eg presentation) - Optional*	Introduced	Developed	Evidenced
1. Communication	Written communication [A, B], team work [A]	☒	☒	☒
2. Professionalism	Reflective practice [A]	☒	☒	☒
3. Critical Thinking	Literature review [A, B]	☒	☒	☒
4. Digital Fluency	Digital assignments [A, B]	☒	☒	☒
5. Innovative and Enterprising	Via class discussion, debate	☒	☐	☐
6. Forward Looking	Via class discussion, debate	☒	☒	☐
7. Emotional Intelligence	Via class discussion, debate	☒	☐	☐
8. Globally Engaged	Via class discussion, debate	☒	☒	☐

Part 3: Assessment: Strategy and Details

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.

Component A: A poster presentation on a practical ecological investigation, including data presentation and statistical analysis. This assessment will develop student's communication and scientific presentation skills, alongside analytical and practical skills.

Component B: Investigative report: students will complete a 2000 word report investigating the impact of human activity on an ecological area and its biodiversity. This assessment will provide a valuable learning experience through independent research of published literature and development of academic writing style.

Opportunities for formative feedback are built into teaching and practical sessions, through discussion and evaluation of current practice.

Identify final timetabled piece of assessment (component and element)	**Component B**	
% weighting between components A and B (Standard modules only)	**A:** **30**	**B**: **70**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Poster presentation	100
Component B	**Element weighting**

Description of each element	**(as % of component)**
1. Investigative report (2000 words)	100
Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **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: Learning Outcomes & KIS Data

Learning Outcomes

On successful completion of this module students will be able to:

- Explain key ecological principles (A, B)
- Collect, record and interpret data using appropriate techniques in the field or/and laboratory (A)
- Evaluate the impact of human activities at a particular location on the biodiversity of the surrounding ecosystem (B)
- Demonstrate scientific communication skills through the presentation of experimental data in poster format (A)

Key Information Sets Information (KIS)

Contact Hours

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	
150	45	105	0	150	

Total Assessment

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

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)

	Total assessment of the module:
	Written exam assessment percentage 0%
	Coursework assessment percentage 70%
	Practical exam assessment percentage 30%
	100%
Reading List	The following book is recommended as it covers most of the module material at an appropriate level. • Begon, M., Harper, J.L. & Townsend, C.R. Ecology: individuals, populations and communities. Blackwell Scientific Publications, Cambridge. Extensive notes will be provided via blackboard on the scientific topics. Links to useful and credible websites will also be provided. 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: The latest editions of: • 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 *Life:* The Science of Biology*,* Sinauer Associates, Sunderland, MA. *Further Reading* 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. The most recent editions of: • Krukonis 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

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First CAP Approval Date	17/05/2018			
Revision CAP Approval Date Update this row each time a change goes to CAP		Version	2	Link to RIA 13100
Revision Approval Date	06/11/2019	Version	3	