



CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data					
Module Title	The Earth				
Module Code	USSJFB-30-1	Level	1	Version	2
Owning Faculty	Health & Applied Sciences	Field	BBAS		
Contributes towards	BSc Wildlife Ecology and Conservation Science BSc Environmental Science				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	None		Co- requisites	none	
Excluded Combinations	none		Module Entry requirements		
Valid From	September 2014		Valid to	September 2020	

CAP Approval Date	28/03/2014
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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"> • Demonstrate an awareness of the present and past interactions between components of the Earth system and the effects of extra-terrestrial influences on these interactions. • Describe the cycling of matter and the flows of energy into, between and within the solid Earth, hydrosphere, atmosphere and biosphere. • Appreciate the importance of the chemistry, physics, biology and mathematics that underpin our understanding of Earth structure, materials and processes. • Identify the contributions of the natural sciences to the identification of and understanding of environmental issues and concerns. • Demonstrate basic practical skills relevant to the environmental sciences.
Syllabus Outline	<p>Geoscience Paradigms The extent of geological time. Evolution: the history of life on Earth. Plate Tectonics. Geological time & rates of Earth processes. Major events in Earth's history. Historical environmental change.</p> <p>Earth's Structure, Materials and Processes The study of structures, materials and processes ranging in scale from atoms to planets and nomenclature and classification of rocks and minerals. The chemical and physical composition of the lithosphere, hydrosphere and atmosphere. The chemical and physical processes operating within and between these spheres and their interconnectivity.</p> <p>The Earth as a System</p>

	<p>The systems approach to environmental study and the structure and functioning of the Earth as a set of systems. The cycling of matter and the flows of energy into and within the Earth systems. The complexity and inter-relatedness of the Earth's systems. The role of the Earth's systems in supporting life and human activities.</p> <p>Impacts The consequences for the environment of resource extraction and waste disposal arising from the fulfilment of human needs e.g. pollution, resource depletion and environmental change. Introduction to the major environmental issues facing the Earth system: limits to growth, sustainability and sustainable development.</p>																				
Contact Hours	<p>The contact hours (120) are distributed as follows:</p> <p>12 interactive lectures @ 2 hours/lecture = 24 hours 10 Laboratory Workshops @ 3 hours/workshop = 30 hours 20 Tutorials @ 1 hour/tutorial = 20 hours</p> <p>= 74 hours (4 x 24 = 96)</p>																				
Teaching and Learning Methods	<p>A variety of teaching and learning approaches will be employed. Practical sessions will provide 'hands-on' experience and will be used to under-pin the learning outcomes of this module. Practical and tutorial sessions also provide students the opportunity to acquire data handling and problem solving skills.</p> <p>Lectures will be used to introduce main concepts and to guide and inform student centred learning. Student learning will be supported through audio-visual material including on-line learning through the University's Virtual Learning Environment (Blackboard and the Learning Resources Web), CD-ROMs and interactive revision material. Workbooks and practical logbooks will be used to develop a culture of continuous learning.</p> <p>All sessions will be used to inform and provoke critical thinking and awareness. These will also provide essential background information.</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> <table border="1" data-bbox="459 1346 1369 1738"> <thead> <tr> <th colspan="5">Key Information Set - Module data</th> </tr> </thead> <tbody> <tr> <td colspan="4">Number of credits for this module</td> <td>30</td> </tr> <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> <tr> <td>300</td> <td>120</td> <td>180</td> <td></td> <td>300</td> </tr> </tbody> </table> <p>The table below indicates as a percentage the total assessment of the module which constitutes a -</p> <p>Controlled: Written and Practical Exam Coursework: Investigative Report; Practical Log Book</p>	Key Information Set - Module data					Number of credits for this module				30	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	300	120	180		300
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Total assessment of the module:			
Written and Practical Exam		40%	
Coursework and Practical Log Book		60%	
		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.

Any **essential reading** will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given or sold a print study pack or be referred to texts that are available electronically, etc. 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.

If **further reading** is expected, this will be indicated clearly. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases.

A detailed reading list will be made available through relevant channels, e.g. module handbooks, Blackboard, etc.

Indicative Reading List

The most recent edition of:

Park, C. *The Environment. Principles and Applications*. 2nd ed., London: Routledge.

Andrews, J.E., Brimblecombe, P., Jickells, T.D. and Liss, P.S. *An Introduction to Environmental Chemistry*. London: Blackwell Science.

Botkin, D.B. and Keller, E.A. *Environmental Science: Earth as a Living Planet*. 3rd ed. Hoboken, NJ: John Wiley & Sons.

Briggs D., Smithson P., Addison K. and Atkinson K. *Fundamentals of the Physical Environment*. London: Routledge.

Girard, J.E. *Principles of Environmental Chemistry*. Burlington, MA: Jones and Bartlett Publishers.

Strahler, A. & Strahler, A. *Physical Geography, Science & Systems of the Human Environment*. Hoboken, NJ: John Wiley & Sons.

Wright, J. *Environmental Chemistry*. London: Routledge.

Part 3: Assessment

Assessment Strategy

The Assessment Strategy has been designed to support and enhance the development of both subject-based and generic key skills, whilst ensuring that the modules Learning Outcomes are attained. The focus is on assessments that link directly key skills as described below.

Component A.

This will be assessed via a written examination and an assessed practical undertaken under controlled conditions.

The written examination will be used to assess the student's key knowledge and understanding of the core science in all aspect of geoscience including elements of chemistry, physics and biology. In addition to this, students will be assessed on their understanding of how key scientific theories relate the wider Earth system in the broader context of applied environmental science.

The practical exam will involve students working individually to undertake a range of short experimental tasks that will assess how they have individually learned key transferable practical laboratory skills throughout the course that will underpin their practical skills for future years.

Component B

Coursework 1

An Investigative Report which incorporates several elements to introduce the students to different aspects of researching, analysing and constructing a scientific report. The two main elements are:

1. A review of the scientific literature to introduce students to peer-reviewed literature, and how to identify, assess and summarise relevant background literature.
2. Data collection and analysis. Students will learn how to collect data, how to analyse data using data reduction methodologies, and how to summarise and best present their findings to address a specified scientific aim.

The topic of the report will focus on a particular aspect of the Earth's environment and how we can quantitatively assess the impact of anthropogenic activities on the Earth System. The recording and analysis of scientific data is a vital skill for environmental students that needs to be introduced early in the course. An understanding of how to best utilise the scientific literature is also a key skill that students need to grasp at an early stage. Consequently this assessment addresses both these points and is an assessment for learning and key skills.

Coursework 2

The second element is the submission of a Contemporaneous Practical Log Book. Throughout the course students will undertake assessed laboratory workshops. The assessment will involve the submission of practical logbooks, which will be used to develop and encourage a culture of continuous experiential learning.

Formative feedback is available to students throughout the module through discussions particularly in tutorials and during the practical sessions. Students are provided with formative feed-forward from informal assessment of their laboratory workshop log books throughout the course.

Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	A:	B:
	40%	60%
First Sit		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Written Examination	75%	
2. Assessed Practical	25%	
Component B Description of each element	Element weighting (as % of component)	
1. Investigative Report	40%	
2. Contemporaneous Practical Log Book	60%	

Resit (further attendance at taught classes is not required)		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Written Examination	75%	
2. Assessed Practical	25%	
Component B Description of each element	Element weighting (as % of component)	
1. Investigative Report	40%	
2. Problem Solving Case Study	60%	
If a student is permitted an EXCEPTIONAL RETAKE of the module the assessment will be that indicated by the Module Description at the time that retake commences.		