



MODULE SPECIFICATION

Part 1: Information			
Module Title	Earth Science		
Module Code	USSKN5-15-2	Level	2
For implementation from	September 2017		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Health and Applied Sciences	Field	Applied sciences
Department	Department of Applied Sciences		
Contributes towards	MSci Environmental Science BSc (Hons) Environmental Science		
Module type:	Standard		
Pre-requisites	The Earth (USSJFB 30-1)		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description	
<p>Planet Earth is a complex, interconnected system. In this module students will focus on studying the structure and dynamics of the Earth and the Earth's surface.</p> <p>Specifically students will study:</p> <ul style="list-style-type: none"> - Earth Materials The make-up, natural characteristics and structure of the solid Earth. - Earth Dynamics The dynamic geosphere, plate tectonics, weathering processes, erosional landforms and element release. - Soil Geoscience Soil structure and function. The Biogeochemical Cycling of elements through the Earth system, the influence of these cycles on the wider dynamics of the Earth system and how these processes are linked with global change. - Natural Hazards (Prediction and Risk) Volcanic, seismic, and future hazards arising from the dynamic Earth and global environmental change. - Environmental Analysis 	

Background and considerations for environmental sampling, sample storage, sample processing, sample extraction, sample analysis, spectroscopy, calibrations.

Experiential learning of the Earth system will be achieved through fieldwork, practical study and hands-on analysis. This will incorporate a comprehensive introduction to environmental analytical Instrumentation.

Specifically students will learn:

- Techniques for measuring the physical, chemical, and biological parameters of soils and sediments. Laboratory analysis of field samples using a range of environmental analytical techniques.
- Analysis and interpretation of environmental data.
- The limitations and sources of error associated with the analysis of environmental samples (natural and perturbed) and analytical measurement techniques.

Part 3: Assessment

There are two main assessment methods that will be utilised during this module.

Component A – Examination


This module represents a core scientific module for those students who will be undertaking the Environmental Science programme and focussing on the solid Earth. As such the best way to assess a diverse range of scientific theory and knowledge will be through a written examination at the end of the module. Tutorial sessions (run at the end of lecture sessions) will focus on preparing students for the written examination.

Component B – Practical Report

A feature of the module will be a focus on analytical methodologies for studying the Earth system. Students will gain hands-on experience and skills using a range of scientific equipment and methods. To ensure the learning outcomes are met in this area the practical report will combine the results from a number of experimental studies that the students will undertake during the module. Students will be required to synthesise this new data to complete their final laboratory report. Whilst some of the data will be collected in groups the written assessment will be based upon individual work.

Identify final timetabled piece of assessment (component and element)	Component A	
% weighting between components A and B (Standard modules only)	A: 50	B: 50
First Sit		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Written Exam (2 hours)	100	
Component B		
Description of each element	Element weighting (as % of component)	
1. Experimental 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. Test / Seen essay	100
Component B Description of each element	Element weighting (as % of component)
1. Experimental Report	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"> - Discuss the physical, chemical and biological characteristics of rocks, soils and sediments (Assessed in component A). - Explain the biogeochemical functioning of the Earth system and the dynamic processes that shape the Earth's surface, in particular soils and sediments. (Assessed in component A) - Understand the key processes linked with natural hazards (Assessed in component A). - Describe and compare the use of contemporary analytical techniques utilised in the study of the Earth System and Environmental Science (Assessed in components A and B) - Gain practical experience in a range of environmental analytical techniques (Assessed in component B)
Key Information Sets Information (KIS)	<p>The module will be taught by a combination of interactive lectures and laboratory practical workshops.</p> <p>A major feature of this module is the focus on the experiential learning of transferable analytical (field-based and laboratory) skills and therefore field work and in particular laboratory work will formulate a large component of the module.</p> <p>Regular laboratory based analytical practical classes will be used in parallel to lectures to link practice and theory. This module focuses on the further development of general practical laboratory skills initiated at level one (The Earth) with particular emphasis on applied analytical methodologies for studying the Earth system.</p> <p>Lectures (theory) and practicals (practice) will be integrated through the use of Blackboard and tutorials.</p> <p>Students are expected to self-study in their own time to help develop a deeper understanding of the subject. Full support will be given in this regard.</p> <p>Scheduled learning includes lectures, tutorials, and laboratory practical classes. Independent learning includes hours engaged with essential reading, assignment preparation and completion of laboratory workshop written reports.</p>
Contact Hours	

Total Assessment	Key Information Set - Module data																									
	<i>Number of credits for this module</i>					15																				
	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours																					
	150	36	114	0	150																					
	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)																									
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2">Total assessment of the module:</td> <td></td> <td></td> </tr> <tr> <td>Written exam assessment percentage</td> <td></td> <td style="text-align: center;">50%</td> <td></td> </tr> <tr> <td>Coursework assessment percentage</td> <td></td> <td style="text-align: center;">50%</td> <td></td> </tr> <tr> <td>Practical exam assessment percentage</td> <td></td> <td style="text-align: center;">0%</td> <td></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">100%</td> <td></td> </tr> </table>						Total assessment of the module:				Written exam assessment percentage		50%		Coursework assessment percentage		50%		Practical exam assessment percentage		0%				100%	
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Reading List	https://uwe.rl.talis.com/lists/F000EF23-3B69-30D6-208F-EF91AAE78B3B.html																									

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First CAP Approval Date	31/5/2017			
Revision CAP Approval Date <i>Update this row each time a change goes to CAP</i>		Version	1	RIA 12112