



MODULE SPECIFICATION

Part 1: Information			
Module Title	Earth Science		
Module Code	USSKN5-15-2	Level	Level 5
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	the Earth 2020-21		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: 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>Educational Aims: See learning outcomes.</p> <p>Outline Syllabus: Specifically students will study:</p> <p>Earth Materials The make-up, natural characteristics and structure of the solid Earth.</p> <p>Earth Dynamics The dynamic geosphere, plate tectonics, weathering processes, erosional landforms and element release.</p> <p>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.</p> <p>Natural Hazards (Prediction and Risk)</p>

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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.

Teaching and Learning Methods: See assessment strategy.

Part 3: Assessment

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

Component A – Online Examination (24 hour submission window)

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.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Experimental report (2000 words)
Examination (Online) - Component A	✓	50 %	Online exam (24 hour submission window)
Resit Components	Final Assessment	Element weighting	Description
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Examination (Online) - Component A	✓	50 %	Online exam (24 hour submission window)

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Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Discuss the physical, chemical and biological characteristics of rocks, soils and sediments</td> <td>MO1</td> </tr> <tr> <td>Explain the biogeochemical functioning of the Earth system and the dynamic processes that shape the Earth's surface, in particular soils and sediments</td> <td>MO2</td> </tr> <tr> <td>Understand the key processes linked with natural hazards</td> <td>MO3</td> </tr> <tr> <td>Describe and compare the use of contemporary analytical techniques utilised in the study of the Earth System and Environmental Science</td> <td>MO4</td> </tr> <tr> <td>Gain practical experience in a range of environmental analytical techniques</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Discuss the physical, chemical and biological characteristics of rocks, soils and sediments	MO1	Explain the biogeochemical functioning of the Earth system and the dynamic processes that shape the Earth's surface, in particular soils and sediments	MO2	Understand the key processes linked with natural hazards	MO3	Describe and compare the use of contemporary analytical techniques utilised in the study of the Earth System and Environmental Science	MO4	Gain practical experience in a range of environmental analytical techniques	MO5				
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Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/modules/usskn5-15-2.html</p>																

Part 5: Contributes Towards	
<p>This module contributes towards the following programmes of study:</p> <p>Environmental Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19</p> <p>Environmental Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19</p> <p>Environmental Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2018-19</p> <p>Environmental Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2018-19</p>	