Module Specification

Earth Science

Version: 2025-26, v3.0, Approved

Contents

Part 1: Information

Module title: Earth Science

Module code: USSKN5-15-2

Level: Level 5

For implementation from: 2025-26

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Health, Science & Society

School: CHSS School of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: The Earth 2025-26

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

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.

Pre-requisites: Students must have passed USSJFB-30-1 The Earth before starting this module.

Features: Not applicable

Educational aims: This module represents a core scientific module for those students who will be undertaking the Environmental Science programme and focusing on the solid Earth. A feature of the module will be a focus on analytical methodologies for studying earth systems. Students will gain hands-on experience and skills using a range of scientific equipment and methodology.

Outline syllabus: Specifically students will study:

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.

Part 3: Teaching and learning methods

Teaching and learning methods: Experiential learning of Earth Systems will be achieved through fieldwork, practical study and hands-on analysis. This will incorporate a comprehensive introduction to environmental analytical

instrumentation.

Interactive lectures will consider the theoretical aspects of measuring the physical, chemical, and biological parameters of soils and sediments. This will be supplemented by laboratory analysis of field samples using a range of environmental analytical techniques and training in 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 will be considered.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Understand the biogeochemical functioning of the Earth system and the dynamic processes that shape the Earth's surface, in particular soils and sediments.

MO2 Practical use, and critical analysis, of contemporary analytical techniques utilised in the study of the Earth System and Environmental Science.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 117 hours

Face-to-face learning = 33 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/usskn5-15-2.html

Part 4: Assessment

Assessment strategy: Assessment: Online Examination (2 hours, 24 hour submission window)

An online examination allows the assessment of a diverse range of scientific theory and knowledge 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.

Assessment tasks:

Examination (Online) (First Sit)
Description: Online exam (2 hours in a 24 hour submission window)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Examination (Online) (Resit)
Description: Online exam (2 hours in a 24 hour submission window)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Science {Foundation} [Frenchay] BSc (Hons) 2023-24

Environmental Science {Foundation} [Frenchay] MSci 2023-24

Environmental Science [Frenchay] BSc (Hons) 2024-25

Environmental Science [Frenchay] - WITHDRAWN MSci 2024-25