



Module Specification

The Earth

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Part 1: Information

Module title: The Earth

Module code: USSJFB-30-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: See Learning Outcomes

Outline syllabus: 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.

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.

The Earth as a System:

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.

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.

Part 3: Teaching and learning methods

Teaching and learning methods: 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.

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.

All sessions will be used to inform and provoke critical thinking and awareness. These will also provide essential background information.

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

MO1 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.

MO2 Describe the cycling of matter and the flows of energy into, between and within the solid Earth, hydrosphere, atmosphere and biosphere.

MO3 Appreciate the importance of the chemistry, physics, biology and mathematics that underpin our understanding of Earth structure, materials and processes

MO4 Identify the contributions of the natural sciences to the identification of and understanding of environmental issues and concerns

MO5 Demonstrate basic practical skills relevant to the environmental sciences

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 180 hours

Face-to-face learning = 120 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussjfb-30-1.html) via the following link <https://uwe.rl.talis.com/modules/ussjfb-30-1.html>

Part 4: Assessment

Assessment strategy: Assessment 1 is 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.

Assessment 2 is the submission of an Online Practical Portfolio. Throughout the course students will undertake assessed laboratory workshops. The assessment will involve the submission of elements of the practical portfolio, which will be used to develop and encourage a culture of continuous experiential learning.

Assessment 3 is an assessed practical undertaken under controlled conditions. 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.

Assessment 4 is an online examination. The online examination will be used to assess the student's key knowledge and understanding of the core science in all aspects 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.

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.

Assessment components:**Report (First Sit)**

Description: Investigative report

Weighting: 24 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Portfolio (First Sit)

Description: Online Practical Portfolio

Weighting: 36 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Practical Skills Assessment (First Sit)

Description: In Class Laboratory Practical Exam (2 hours)

Weighting: 10 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Examination (Online) (First Sit)

Description: Online Exam (24 hrs)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Report (Resit)

Description: Investigative report

Weighting: 24 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Portfolio (Resit)

Description: Online Practical Portfolio

Weighting: 36 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Practical Skills Assessment (Resit)

Description: In Class Laboratory Practical Exam (2 hours)

Weighting: 10 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Examination (Online) (Resit)

Description: Online Exam (24 hrs)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Wildlife Ecology and Conservation Science [Frenchay] MSci 2023-24

Environmental Science [Frenchay] MSci 2023-24

Wildlife Ecology and Conservation Science [Zoo] BSc (Hons) 2023-24

Environmental Science {Foundation} [Frenchay] MSci 2022-23

Environmental Science {Foundation} [Frenchay] BSc (Hons) 2022-23

Wildlife Ecology and Conservation Science {Foundation} [Frenchay] MSci 2022-23

Wildlife Ecology and Conservation Science {Foundation} [Zoo] BSc (Hons) 2022-23