

University of the West of England

MODULE SPECIFICATION

Code: USSJFB-30-1 **Title:** THE EARTH **Version:** 1

Level: 1 **UWE credit rating:** 30 **ECTS credit rating:** 15

Module type: STANDARD

Owning Faculty: Biological, Biomedical and Analytical Sciences

Field: Natural & Life Sciences

Valid from: September 2013 **Discontinued from:**

Pre-requisites: None

Co-requisites: None

Excluded combinations: None

Learning outcomes:

- 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:

GEOSCIENCE PARADIGMS

The extent of geological time. Evolution: the history of life on Earth. Plate Tectonics. Geological time & rates of Earth's 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

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.

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.

This guidance will be available either in the module handbook, via the module information on UWEonline or through any other vehicle deemed appropriate by the module/programme leaders.

Park, C. (2001) *The Environment. Principles and Applications* (2nd Edition), Routledge, London.

Andrews, J.E., Brimblecombe, P., Jickells, T.D. and Liss, P.S. (1996) *An Introduction to Environmental Chemistry*, Blackwell Science, London.

Botkin, D.B. and Keller, E.A. (2000) *Environmental Science: Earth as a Living Planet*, (3rd Edition) Wiley.

Briggs D., Smithson P., Addison K. and Atkinson K. (1997) *Fundamentals of the Physical Environment*, Routledge, London.

Assessment

Weighting between components A and B (*standard modules only*) A: 40% B: 60 %

ATTEMPT 1

First Assessment Opportunity

Component A Element weighting

EX2 Examination (2 hours)	3
PR1 Assessed Practical	1

Component B

Description of each element Element weighting

WR1 Investigative Report	2
PR2 Contemporaneous Practical Log Book	3

Second Assessment Opportunity (further attendance at taught classes) No

Component A

Description of each element Element weighting

EX2 Examination (2 hours)	3
PR1 Assessed Practical	1

Component B

Description of each element Element weighting

WR1 Investigative Report	2
CS1 Problem Solving Case Study	3

SECOND (OR SUBSEQUENT) ATTEMPT Attendance at taught classes. No

Specification confirmed byDate
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(Associate Dean/Programme Director)